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T. Price Caldwell

Edited by
Oliver Cresswell
Robert J. Stainton

Discourse, Structure and Linguistic Choice

The Theory and Applications of Molecular Sememics

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The Theory and Applications of Molecular Sememics

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Foreword

Price Caldwell and I were best friends for forty years, beginning when he moved in across the street and needed help sanding the floors of his house. At the time I fancied myself a good arguer. I had won a high school medal in debating. Price just looked tired when I got in that mode. He was not interested in conducting or winning a competitive argument. Winning a debate, he said, leaves one exactly where one started. Losing, on the other hand, means one has at least had to give up some untenable proposition. He taught me to use argument to discover what I did not know. He was never satisfied with what he thought he knew. He was seldom satisfied with what he had written – hence, I think, this unfinished book. If I were to be his friend, I would need to stop debating and start examining arguments for weaknesses to be fixed and for strengths that were hidden. In conversations with him, if both of us moved off of our opening positions, we both won. I miss him.

In two ways I represent potential readers of Price's book. One is as a layman fascinated with linguistics and theory and philosophy, driven by a hope that pursuit of these subjects will lead, if not to truth, at least to an escape from (some) self-deception of the sort that makes one so certain. Certainty is often, if not always, supported in part by one's ignorance (sometimes willful ignorance) of that which would undermine it. Being undermined in one's certainty is a release from the burden of ignorance, of partial understanding. Price always wanted to know how an argument could hide that which undermined it. Time and again, in this book, he suspects the standard view to be based on some assumption hidden by the rhetoric of the arguments supporting it. His work is an exploration. He is not flogging a fixed position. He was always ready to concede in light of better argument.

The second way I represent potential readers is my desire in particular to know how meaning works, how language makes meaning, and how people make language, driven in my case by a somewhat esoteric need to understand how revision works in the process of writing. I remember the first time Price tried to explain molecular sememics to me in the cafeteria of the college where we both taught. I was skeptical. Another acquaintance had been bending my ear about a modified version of phlogiston. I was not buying. About an hour and a half into the conversation with Price the penny dropped. I understood the basic notion: that the functional

meaning of a word in a sentence as it was used by a person in a situation where speaker and listener both understood nearly everything that went without saying might, just might, be the same meaning to speaker and listener (intender and interpreter), even though the words were not defined so in any dictionary. Yet, the flexibility and instability and dexterity of language was such that there was no guarantee a word would mean the same to both speaker and listener, to both writer and reader. I revisited my college linguistic books; re-read J.L. Austin's *How to Do Things with Words*; ate up the writings of John Searle, Quentin Skinner, Steven Pinker, and Paul Hernadi; sat in on a syntax course taught by my colleague John (Haj) Ross; and mulled Price's ideas, and fancied myself quite the 'pragmaticist.'

The truth is I don't think Price ever believed that I had understood him fully. I did not believe so either. I fancy he wrote this book to help me get there. Over the years he sent me drafts of some of the chapters. Any layman can understand them. He hated big words as much as I did. Big words too often hide things rather than expose or encapsulate ideas. His interests were in how ordinary language works in speech and writing, in propositions, jokes, lies, innuendos, hints, deceptions, inarticulations (how does one know the difference between a doohickey and a thingamabob? how can one say one thing and mean another?) – everything; mine was in how language works in writing, in understanding the writings of inaccessible (dead) authors. Price gave me new tools for studying drafts, manuscripts, revisions, proof alterations, and revised editions.

I found the concept of molecular sememics invigorating and useful in elaborating a variation on speech act theory, which I called script act theory. There are a variety of important differences between speech and writing, not the least of which is that, in speech, speaker and listener usually occupy the same place and time, while in writing, it is usual for writer and reader to be leagues and ages apart. The contexts of speech that form one important aspect of the molecular sememe are shaped and modified in crucial ways by what goes without saying – understood to influence meaning, though not explicit or even acknowledged. In writing, with gaps of space and time separating writer from reader, what went without saying ceases to do so. The controlling sememic molecule is eviscerated. In addition, molecular sememics explains how, as composition proceeds, triangulating processes narrow the range of acceptable and expected words at each next point in a sentence, such that each chosen next word means what it means in contrast to the few remaining other possible words that could have been chosen. (Umpires in baseball do not call a runner "in" as opposed to "out".) When a writer chooses, crosses out, chooses again, crosses out, and finally decides, each potentially expected word from that triangulated set of possible choices affects the meaning of the chosen word and simultaneously limits the range of options for the next word. We recognize typos and malapropisms, in part, because they fall outside that set of acceptable/expected words triangulated for us by what went before, and the contexts of the speech act. In script acts the writer has more time and space for experiment, and, yet, the final choice is not necessarily the perfect choice. The crossed out words belong to a limited set and help a reader know how the writer was thinking. Knowledge of each abandoned choice helps us understand the last one more precisely. These

'Caldwellean' concepts stand at the core of my books on textual criticism, *Resisting Texts: Authority and Submission in Constructions of Meaning* and *From Gutenberg to Google: Electronic Representations of Literary Texts.* Price's ideas helped me understand the significance of revisions for literary criticism and for scholarly editing. Others will find his ideas intriguing and useful in other ways.

Twenty-five or more years ago, for example, my enthusiasm for molecular sememics led me to explain the ideas to an artist friend, who at the time was also reading Foucault and Levi Strauss. She painted a triptych in which the first panel was a fairly faithful representation of an academic gown, the second panel was a portrait of a man, and the third a somewhat chaotic combination of the colors used in the first two panels in which a pattern emerged when viewed beside the first two panels. She said, "I got the idea from your friend's idea about the capsule, you know, the module." Maybe she got the words wrong but she got the concept clearly enough. Recognition of sameness and difference is crucial to meaning making.

I do not mean to imply that this book is for laymen only, and yet, it might strike some linguists reading the early chapters that the way Price has nested his ideas in the history of linguistic thought, the ways he has explained his views by contrasting them with alternatives common in the field of linguistics, have left something to be desired. That is, it could be argued that the 'potted histories' of linguistics in the early chapters are insufficient to give gravitas to his views. He read more than shows up in the footnotes. He took an NEH-sponsored course with George Lakoff. This sense of haste in 'covering' existing thought in linguistics is remedied in the second section of 'the book' (i.e. Chap. 5). I knew Price and the way he thinks. He had a vision of how language works that made more sense to him than did the existing views. His idea of conversation or discourse was that one did one's best to be clear, and then one listened for the responses. Persuading others that he was right about linguistics was not his main aim. Offering as coherent an argument as he could, he hoped for feedback, even blowback, that took him seriously, genuinely considered his views. At every point, he was willing to concede his position in the face of new information or better argument. Too often, I saw him at times when he felt his ideas were dismissed *a priori* because he questioned rather than built on received wisdom or because he was deemed an amateur.

The structure of this posthumous book reflects the processes by which Price thought his way into molecular sememics. Understanding that process will help explain the somewhat unorthodox structure of the book. The first four chapters, being collected for the most part from previous standalone articles, consist of four introductions to the subject, each developing some new aspect of it, but each covering some ground covered elsewhere. This is a good thing, because Caldwell's overall intent is to introduce a new paradigm for understanding how ordinary language works, and that requires stripping away much that many of us have adopted as unquestioned truths about how language works. Chap. 5 consists of five sections of what Caldwell intended to be 'the book.' It is in some ways more formal, more methodical than the first four chapters, and because it represents his attempt to organize and present the idea of molecular sememics as a whole, it takes up in a formal organized way the ideas he has been introducing us to in the first chapters. No

doubt, had he lived to complete "the book" it would have stood more securely on its own without the essays he produced as he was working out the details of molecular sememics. Although some ideas are repeated more often than required in a single publication, I find the result of these multiple approaches and re-explanations very useful in making the ideas understandable.

Though for years Price and I talked endlessly about MS and molecule-selection-and-execution structures, I did not know the full range of his thinking in the deep and interesting ways that show up in Chap. 5, "Qualities of the Sememe" – his clearest expression of the difference between MS as an arena in which meaning gets expressed in a dynamic exercise of rhetorical skill (even by the nearly inarticulate), on one hand, and the structuralist, formalist view of language as a pre-existing set of categorical choices offered by the langue, on the other. Molecular sememics explains ordinary exchanges of intention and interpretation (speaker/listener) as skill in innovation of expression rather than as dexterity in the application of rules. And though he wrote it first many years ago, I did not know how well he applied his sense of how language works to the unpacking of nuance in Wallace Stevens' poems, in Part II. Anyone unaware of MS before reading Caldwell on Stevens might be none the wiser about MS but surely would be wiser about Steven's exploration of the relation between language and one's sense of the 'real' world. But, having read this book, one can see MS lurking in the background of Caldwell's analyses of Stevens, Hemingway, and Ford. The difference between applying with dexterity the categorical options of structured language by contrast to the momentary dynamics of constructing meaning is echoed in Caldwell's comment on Richard Ford's writing, that "Every writer should distrust the received meanings of words and concepts. He or she should take on the obligation to make meaning…"

In the last fifty years or so, Samuel Beckett's question about authorship and voice in literature *What does it matter who is speaking?* has been reiterated by Foucault, Derrida, and numerous literary critics. One of the reasons for this attitude toward voice is that interpretive despair and the absurdity of modern life have made the question uninteresting. Another is that when the text is read, it is the reader who is speaking, making up the tone and feeling about what is written. Caldwell focuses on *how* readers make up the tone and feeling of what they read. He begins with explorations of how writers and speakers create meaning using not just words but tone and feeling and context and expectations – providing meaning determiners that sensitive listeners and readers can use to ferret out intended meaning, or at least to avoid the literalness of tone-deaf readings. Reading this book brought home to me more clearly than ever that molecular sememics, as a theory about practical meaning making, is an enormously useful tool for well-informed reading. In short, Price gives us grounds for thinking that 'who is speaking' does indeed matter.

While he is no longer with us to receive feedback, Price Caldwell would have been delighted to know that his ideas entered or provoked a conversation, a reconsideration of mainstream thinking on whether competence precedes or follows performance, whether language precedes or derives from speech, whether the rules of a language system predict or circumscribe language acts or if local speech, through repetitions and incremental conventionalization first creates and then modifies the

rules, whether the rules of syntax determine word order or if the salience order of discourse creates syntactic paths that become conventionalized into rules. His primary insight, from my point of view, was the dynamics of meaning creation or construction, for dynamic meaning making, whether primitive or sophisticated, provides a plausible explanation for the innovative nuances that speakers and writers accomplish on the fly; as well as for the evolution of language competencies; and for how rules develop and how they can be broken to good effect. Beyond that, when he says, "meaning belongs to the molecule, and not to the word," he opens a path for literary critics to seek historical meanings in writings as well as exploring the limits of misprision. Using what we know about the contexts of origination, the audience, the cultural expectations of the time and noting the actually trialed but rejected words in drafts, manuscripts, and revision, a critic can often come close to recognizing the molecular sememe that determined meaning for the writer. That one cannot always do that and that one cannot do so with certainty was not, for Caldwell, a reason to abandon hope of approximating intended meanings. His conclusion (that "there is as much good reason in examining the readers' assumptions – as reader-response criticism insists – as there is in searching for historical evidence of the writer's intentions") is not startling. What is new is his methods for understanding how we go about that business.

The important issue is not whether one or the other of the possible explanations for how language works is right, but how they can help us understand meaning and meaning making. As Caldwell demonstrates and as is well known, many grammatically and syntactically 'correct' sentences make no sense – are meaningless. Discourse salience in molecular sememics is like an owners' manual for deploying the tools of language effectively, not just acceptably. That there are other explanations, Price obviously knew. That his ideas gave him at least a temporary sense of satisfaction and clarity of sight is also apparent. His ideas arose from the sense of dissatisfaction with the standard explanations. He was less concerned with whether he was right than he was with whether his thinking about language, running as it does against the grain in so many ways, could stimulate further thought and analysis. He would be happy to know that he had nudged the conversation forward, even if just a bit.

Barnardsville, NC, USA Peter Shillingsburg

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Introduction[1]

> I have become a pluralist, something like a non-rigorous existentialist; I believe in essences, but I think they come from the ground, not from the sky. The problem with categorical thinking is that it requires generalizing. If you generalize habitually, everything begins to looks like everything else. After a while, everything is the same category or set of categories, and it looks like there is only one essence. In this direction lies monotheism and every kind of monism. Going too far in this direction is a bad habit of Western thought. Sufficiently particularized, however, nothing looks like anything else. (T. Price Caldwell)

Preliminary Personal Remarks

Thomas Price Caldwell, known universally as Price, was born in Tutwiler, Mississippi. He earned his Ph.D. at Tulane, on Wallace Stevens, and taught for many years at Mississippi State University. He was also regularly a Visiting Professor of English at Meisei University, Tokyo.

Caldwell began his career in letters as a poet, short-story writer and literary theorist. In the late 1980s, however, he turned his attention in a concerted way to the intersection of linguistic semantics, semiotic theory and philosophy of language. Doing so, he found himself dissatisfied with the inapplicability of much of the work he encountered there, including in particular its inapplicability to literary interpretation and pedagogy. He thus began to pursue his own very original approach to discourses and their meaning. He christened it *Molecular Sememics*.

It was around this time that Caldwell and I first interacted. We exchanged ideas online, in lengthy e-mails. I provided comments on his drafts, often defending the linguistico-philosophical orthodoxy; he provided comments on my drafts, often underscoring hidden assumptions which he rightly found non-obvious. Our correspondence went on for at least a year before we finally met in person. (Sadly, that

[1] I am grateful to Justina Diaz Legaspe, Julia Lei, Jiangtian Li, Chang Liu, Louise McNally and Peter Shillingsburg for helpful comments on a previous draft.

happened only once, around 1991 – at a clambake in Rhode Island!) It continued thereafter, but eventually our exchanges became less frequent.

Caldwell worked on molecular sememics for the rest of his scholarly career, completing various stand-alone draft papers. He did not formally publish any of these contributions, however: at most, they appeared as working papers from Meisei's internal series. That is because he planned to publish his views in one cohesive monograph.

That monograph never came to fruition in his lifetime. He was diagnosed with leukaemia, and became too unwell to continue the work. Not long before his untimely death in February of 2015, Caldwell reached out to me as an old friend and sympathetic ear. He hoped that I could make his ideas available to the larger academic community, and appointed me his Literary Executor. This book, co-edited with my one-time graduate student Oliver Cresswell, is the result.

Two kinds of material are presented here. On the one hand, there are the aforementioned articles, which required little editorial oversight. They were nearly publication-ready. These eight stand-alone papers together highlight the pieces of the overarching view that Caldwell had been working towards, both in terms of the theory and its applications. On the other hand, there is an unfinished monograph, which carried the working title *Molecular Sememics*. It ties many of those pieces together. We have, of necessity, modified it more extensively.

Though the articles and the book draft overlap significantly, we editors opted to co-publish both as a more complete guide to Caldwell's ideas. To most effectively present them, we have opted to present the materials out of chronological order. The volume begins with two chapters on motivation, methodology and the overarching theory of meaning. The next two chapters offer specific proposals within that larger theory. Next is the unfinished monograph, in five sections, which reiterates in a synthetic way some of what comes before, as well as adding new ideas. The volume ends with concerns that were at the heart of Caldwell's academic life: applications to creative writing, to criticism and to pedagogy.

Before moving ahead, two important caveats should be issued. The introductory overview which follows will make clear, I hope, why we find the work of great value: it is highly original and insightful in terms of its motivation, methodology and views about linguistic meaning and its origins. What's more, concerns about applicability to literary interpretation, teaching and ordinary talk are at the forefront. That said, though it would have been a great shame for Caldwell's ideas to have remained inaccessible to the larger linguistic and philosophical community, he achieves such originality precisely by coming at things as an outsider not 'raised' in any of the twentieth-century orthodoxies. The first caveat, then, pertains to suggestions for how to approach the writings published here. First and foremost, readers should come to the papers and the draft monograph with an open mind, in the spirit of taking away ideas. Read them, that is, as putting novel options on the table, available for scrutiny and potential development. If Caldwell writes something

which seems naive, overlook the naiveté; better still, pause to wonder whether what seems so obvious to us, 'the enlightened', really is so clearly the case. Continuing with this first caveat: understand the criticism of others in the spirit in which, I know from personal exchanges, Caldwell meant them. He was not one for negative polemics: his expository technique was to clarify his own positive views by sharply contrasting them with broad-strokes approaches his readers would be much more conversant with. His point was: "This is the sort of thing I am rejecting, for the following reasons". This second suggestion is essential because, if one reads him as *aiming for negative results*, Caldwell's criticisms clearly miss their mark. To mention two salient examples, he pretty seriously misreads Chomsky and Pinker. He seemingly takes Chomsky to be attempting to provide a theory of the meaning of *speech*, wherein formally specified competence yields performance-level content – with Caldwell offering up a sharply contrasting account of speech act content (p. 70 and p. 79). In Chap. 3, he seemingly takes Pinker to be denying that one's native language can impact upon personal-level gestalt perception of *ordinary items in our 'life world'* – with Caldwell providing a sharply contrasting account of such perception. Old hands will know that these were not Chomsky's or Pinker's projects. My suggestion, then, is to emphasize Caldwell's contrasting positive accounts, not his seeming critiques. A third and related suggestion: as hinted already, Caldwell paints opposing views with a very broad brush, e.g., collapsing a very motley grouping of theorists, often at war with one another, as 'formalists'. Once again, however, a reader will extract the most from what follows by placing the emphasis on how Caldwell is at odds with even such a heterogeneous collection of theorists.

The second caveat is about my exposition, rather than about how to read Caldwell's texts. Though indeed an old friend and a sympathetic ear, Caldwell's views remain radically different from my own. What's more, many of the concepts I deploy below to explicate his views in more familiar jargon live in the very tradition that Caldwell was most forcefully reacting against. It's inevitable, then, that I will misrepresent him. Read me, then, as offering a first-pass and oversimplified point of departure. (One should also, of course, read what follows as sensitively explaining a view, not endorsing it.) My hope is that future careful exegesis, by those coming from a range of backgrounds, will reveal subtleties and alternative readings not captured in the present Introduction.

The reminder of this Introduction is divided into three parts. I begin, in the immediately following section, by presenting Caldwell's overarching approach to language: its methodological precepts and its broad-strokes substantive commitments. I do so, in particular, by overviewing his reactions against dominant alternatives, and by sketching his innovative melding of themes which will be vaguely familiar to Structuralists and Functionalists. In the next section, I consider Caldwell's views on meaning in particular, introducing his crucial notion of the *molecular sememe*. Finally, I draw attention to some applications of his ideas.

Caldwell and 'Moderate Structuralism'

The best entryway into Caldwell's positive overarching view is to sketch in briefest outline three 'immoderate' views (to use a label of my own devising) which he adamantly rejects.

The first, which Caldwell constantly returns to as *the* wrong approach, I will label *Radical Structuralism*. It takes language to be wholly abstract, with static, fixed, simple and exceptionless rules. A language, so understood, is an all-encompassing coding system which is human-independent: to deploy Hjelmslev's terminology, it has a preset and wholly universal 'content-plane' and a humanly universal 'expression plane'. What's more, a language all on its own yields determinate meaning facts for utterances, and even a guarantee of correct interpretation. Though obviously an extreme, Caldwell takes this position to be vaguely consonant with Saussure/Hjelmslev/Jakobson, but also with Chomsky and the tradition of generative grammar.

The second extreme position, also to be rejected, is *Radical Empiricism*. It takes languages to be nothing more than concrete linguistic happenings, and it is contented to find messy inductive generalizations about a small group of speakers. This position is meant to be reminiscent of Bloomfield.

The final extreme which Caldwell considers, and which I will call *Meaning Nihilism*, involves the complete abandonment of both Structuralism's abstract rules *and* the detailed ground-level description of utterances as produced by small groups. The abandonment, that is, of logico-scientific theorizing about meaning of any kind. This is allegedly justified because, according to this third extreme, there are no stable meanings to be found, and no rules at all; instead, talk approaches irrational anarchy, with 'nothing hidden'. (Caldwell connects this radical view with Derrida's Deconstructionism, but he could equally have pointed to Donald Davidson's "A Nice Derangement of Epitaphs" from 1986 or the panoply of anti-theory Wittgensteinians.)

What is wrong with this triumvirate of options? For Caldwell, the second approach correctly emphasizes actual in-context talk and recognizes that linguistic facts flow 'bottom up'. Still, it goes too far because it aims excessively low in terms of goals; and, relatedly, the level of abstraction from actual token discourses which it can manage is insufficient. Put otherwise, while Radical Structuralism is, for Caldwell, unduly 'theory-driven', Radical Empiricism is unduly 'data driven'. One obvious fault with the final extreme is that it aims far, far too low. Caldwell seems to have thought, moreover, that one can be brought to aim this low by failing to recognize twin aids to theoretical success: (i) adjacent non-linguistic semiotic systems, which can help overcome narrowly linguistic indeterminacy; and (ii) what can 'go without saying' because of our peculiar human biology and psychology. (I will return to this theme at the end.) The issue of what is wrong with Radical Structuralism deserves much more attention – because, of the three options, Caldwell is most drawn to the Structuralist one. He thinks, indeed, that Structuralism had once been on the right track.

I would divide Caldwell's objections to Radical Structuralism into two families: he takes issue both with its search for universal, precise, exceptionless rules, and with the (related) detachment of linguistic theorizing from actual human cognition and talk. As Caldwell sees it, not only does it seek out explicit rules when in fact ordinary language just isn't that kind of system – language being fuzzy, vague and a matter of family resemblances – but Radical Structuralism pursues a fully *global* system. It tries to apply the notions of structure and differences to a language as a whole, which entails that one must give the meaning of any one word in terms of all others. Instead, holds Caldwell, the contrasts are not all of those in principle available, but only the (less-than-fully-global) reasonable ones. As he writes: "words find their meanings not by contrast to every other word in the lexicon, but only by contrast to the other words in the molecule, all of which have been chosen by one particular discourse" (p. 43).

Upon failing repeatedly, as she inevitably will, to find explicit necessary and sufficient conditions, especially ones which apply universally, the Radical Structuralist may pursue two different but equally unhappy paths. She may endlessly complicate the rules, to keep them precise and exceptionless. Or she may 'abstract away' from the continual exceptions to some imagined and ideal 'core'. This latter path takes us to the second family of objections.

In order to overcome bothersome 'complexities', Caldwell takes Radical Structuralism to standardly opt for downplaying actual speech. It was satisfied with finding its structure and its differences/contrasts in a highly abstract construct, one divorced from speech episodes. A related objection is that it also downplayed actual human mentation. Caldwell takes the study of signs in general, and of linguistic ones in particular, to be intimately connected specifically to human cognition. Yes there is a semiotic 'system', yes it is trans-individual; but it goes too far to stress these until the individual's psychological processing gets entirely lost – another 'divorce'. More radically, he insists upon a very crucial and much neglected point, namely that human beings are clever. Even those like Chomsky, who highlight the psychological within their linguistic theorizing, focus on one kind of cognitive creativity, namely the kind afforded by algorithms whose implementation requires no intelligence or insight whatever. Speakers, however, are creative in an additional and very different sense, namely astute, original, able to deal dynamically with novel situations, etc. Put otherwise, in one of the deepest philosophical observations ever made to me, and reminiscent of certain Cognitive Linguists, Caldwell insisted that it is a mistake to take as a constraint on 'rules of language' that a mindless machine should be able to apply them. After all, he said, people are smart.

Caldwell also faults Radical Structuralism for exaggerating the arbitrariness of language. Granted, there isn't any resemblance between the sound /chi-k$^{\text{ə}}$n/ and chickens; granted too, different languages pair different linguistic sounds-patterns with *gallus gallus domesticus*. That sub-variety of arbitrariness is genuine. But if we keep prior discourse firmly in mind, we find that linguistic arbitrariness is not ubiquitous and all-encompassing. For instance, discourse is 'coercive' in pushing certain meaning choices over others. He frequently recurs to (1) as an example:

1. Let's put the voltmeter on the starter solenoid and see if it's getting any __

There are indeed a number of options here: "electricity", "voltage", "power", "juice". But there is a limit to the options, with "chicken" and "surrealism" being clearly ruled out. What's more, the discourse situation may seemingly cry out for "electricity" in a way that would make "juice" highly marked. Revisiting the point about the importance of specifically human cognition, there is also a naturalness to the differences in play, given what *we* perceive, as embodied human agents living on this planet. In a similar vein, Radical Structuralism overemphasizes the synchronic over the diachronic. This is a final kind of 'divorce', this time from evolutionary pressures specific to us and our world. In sum, arbitrariness looms unduly large if we dissociate the theory of language from a series of important situational facts.

Before turning to Caldwell's positive alternative, I want to connect these criticisms to his scholarly background. This will be a motif which recurs throughout the remainder of this Introduction. As I said above, Caldwell came to the theory of meaning from a background in the creation and interpretation of literary works. He also came to it with the outlook of a career as a Professor of English. Structuralism, pushed to the above extreme, becomes inapplicable to literary texts and affords no insight into pedagogy. Thus the resulting position is not merely implausible with respect to our ordinary talk: the High Church version fails to address Caldwell's particular academic interests.

Radical Structural turns out, as we have seen, to be problematic on ever so many fronts. Nonetheless, Caldwell based his positive view on insights from Saussure, Jakobson, et al. How so? As I reconstruct his overarching view, there are two crucial elements in Caldwell's repair. On the one hand, he deploys five methodological precepts, each of which merits the label "moderate". On the other, he shares important insights with Functionalists, including especially M.A.K. Halliday and Talmy Givon.

Implicit in his reactions against the triumvirate of foils above are methodological stances – ones which will guide Caldwell's positive theorizing as well. To begin with, and consonant with his overarching pragmatism, Caldwell holds that language theorists should aim for *an appropriately modest, achievable goal*. For instance, they ought to retreat from the demand for explicit and inviolable 'rules' and 'categories', and rest content with conventionalized uses and "strategies for communicating" (p. 128). That is, at least sometimes, it is enough to uncover vagueness, analogies, heuristics and family resemblance, as opposed to exceptionless criteria. (This is not, of course, to concede that conversation is so much pandemonium.) Or again, Caldwell doubts that meaning theorists will uncover a collection of universal contrastive meaning-features, as was achieved in Structuralist phonology with respect to articulatory-features. He expects to find, when it comes to linguistic meanings, lots of 'kludges' and historical contingencies. However, he does not construe this as failing to achieve a laudable goal. He writes:

> Normally when we think of structure, we mean some phenomenon whose organization has been dictated by a set of rules, or whose features are the manifestation of a set of rules. But this is not the only way, certainly not the only way in nature, and quite possibly not the only

> way in language either. Language may well be more like biology than logic, more like a growing thing than a diagram or blueprint (p. 56).

A second, and closely related precept, is that theorists should aim for the *right degree of abstraction*. There are numerous instances of this which he mentions. As he stresses repeatedly, in finding the meaning of words, one mustn't unduly abstract from the sentential context of the word; nor from the discourse context of the sentence. Equally, it is methodologically unhappy to abstract too much from actual talk, from 'performances'; and from *non*-linguistic context, including the particular persons with particular mental states creating said performances. The rules of a language are context-sensitive rules. They are also, as he will stress repeatedly, dynamic. To seek out context-free and static rules for the sake of abstracting away from 'noise' is, therefore, to miss the *essence* of language. (The soul of linguistic interaction is practical meaning-making, and it is highly variable.) It is especially unhappy to set aside the various non-truth-apt uses of language: as if, for instance, the whole of talk consisted in scientific and philosophical discussions about 'the facts'. Connected to all of these, but worthy of treatment as a precept of its own, is Caldwell's insistence that theorists *not detach the study of language* wholly from our specifically human psychology (especially perception) or our human biology, nor from our actual world; nor should she approach natural language as autonomous from other systems of signs. For one thing, this would preclude ever understanding the origin and evolution of human language; for another, linguistics is but one sub-branch of semiotics for him, and all of semiotics is grounded in our embodied minds. The emphasis on actual talk and 'groundedness' leads directly to a fourth methodological commitment, namely to *understanding the order of explanation as 'bottom up'* rather than 'top down'. Overly abstracting from the complexities of actual language production and comprehension is an especially serious methodological mistake because, holds Caldwell, these are the very sources of meaning. He takes specific interactions – rife with human intentions and situational circumstances – as fundamental. On the other hand, recalling the need for viable aims, the language theorist should *go more local* than the Radical Structuralist does. This is the final methodological precept. Caldwell does understand the attractions of holism, but radical holism leads to pessimism of the sort found in Radical Empiricism and in Nihilism, or to the unachievable goals of Radical Structuralism. That is, to anticipate an absolutely seminal idea, he would have the theorist opt not for the atom, nor for the whole of language, but for something in between: his molecules of meaning.

So much for the first key step in Caldwell's move to a moderate Structuralism. The second involves folding in elements familiar from Functionalism. Caldwell retains from Saussure et al. the idea that structure is crucial: meanings are not to be located (solely?) in atoms but in complexes, in the relationships among various items. Connected to this is Saussure's position that an essential element in meaning, both in spoken tongues and other semiotic systems, are *differences/contrasts*. Caldwell complements this, as do many Functionalists, with a central role for the

individual's *choice* within a system of options.[2] To borrow terminology from semiotic theory, Caldwell stresses not just syntagmatic but also *paradigmatic relationships*. Here is a simple example. Looking at (2), we find syntagmatic relationships among: the determiner "the"; the noun "cat"; the auxiliary verb "be" in third person singular; the preposition "on"; etc. Comparing (2) to (3), we also find numerous paradigmatic relationships: "the" versus "a" in the determiner position; "cat" versus "dog" in the nominal position; present "is" versus past "was" as tense; "on" versus "in" as the preposition; and so on.

2. The cat is on the mat
3. A dog was in the car

Syntagmatic structure across a sentence's parts is the focus of most contemporary syntax, though the mainstream would no longer speak in those terms. One attempts to identify the correct tree structure, and links among its constituents, for a given sentence (and, possibly, a larger tree for a discourse-level series of sentences and links across them). But what Caldwell insists upon is that there is also paradigmatic structure (constrained, of course, by the substitutional categories for each sentence part): at each syntagmatic location, a decision is made among the items which can occur there. (Note that the choice need not be among opposites: a cat is not the opposite of a dog, for instance.) Crucially, recognizing which items were *not* selected – though they were available as potential options – is part of knowing the meaning of the whole expression. Still echoing Functionalist themes, Caldwell constantly underscores the importance of *discourse*, and this in two senses. (See especially p. 46 *ff*.) On the one hand, identifying meaning in context requires knowing what *kind* of discourse the speech belongs to courtroom discourse, the discourse of baseball, a love poem, etc. He calls this discourse in the 'large' sense. On the other hand, identifying meaning requires recognition of context more broadly, both linguistic (e.g., the prior speech episodes) and non-linguistic (worldly circumstances, general and particular, the aims of the participants and so on). Related to the latter is the mass of information which 'goes without saying' for creatures with our biology, psychology and world-as-experienced. Finally, when trying to explain form/structure, Caldwell proposes that one should often reference *function*: form/structure is not self-standing, *sui generis*, but is rather driven by cognitive and communicative demands. (See, e.g., his discussion of the explanatory priority of discourse salience over English word-order in the final chapter.)

It may help underscore the foregoing lessons to rehearse an analogy and an example. The notions of structure, differences, choice, etc., can be clarified by elaborating on Caldwell's own Saussure-inspired analogy of chess, pursued in some detail in Chap. 5. Consider both the pieces in chess and the moves one makes with them. What makes something a rook, say, is not its physical form: though typically

[2] Caldwell recognizes, indeed he stresses, that Saussure himself, in the early days, would have welcomed much of what follows: that is, Saussure began his theorizing as a moderate. However, as Caldwell tells the 'potted history', Structuralism latterly took things to a radical extreme, so that 'reactionary' repair is called for.

shaped like a castle tower, one cannot in general look at an item and determine whether it is a rook or not. There are ever so many extremely stylized ones. Rather, something is a rook if it plays a certain role in a chess set: it is the piece which occupies the extreme back corners of the board at the outset, beside the knights; it is the piece which can move forward and side-to-side, any number of squares, but always in a straight line; it is among the pieces which cannot jump over others; and so forth. Notice how, in explaining the nature of the rook, there is an emphasis both on structure and on difference: the role in the game as a whole, and the contrasting roles of other pieces. Turning to selection/choice, a good player understands the opponent's move not just in terms of what piece she did move, and how, but in terms of what moves were open to her which she eschewed. That choice speaks volumes about the strategy she is pursuing in the game. The analogy to discourse, in both senses mentioned above, is this. In the 'large' sense of discourse, the expert player will recognize the *kind* of chess game which is underway: is this a Latvian Gambit; is the opponent trying to control the centre? Also essential, now comparable to the 'small' sense of discourse, are the specific moves which have come previously in this particular playing of the game.

To clarify still further our key elements, consider one of Caldwell's go-to examples:

> Some years ago, I attended graduation exercises at a small American university. During the course of the ceremonies, the university Registrar said, "This is undoubtedly the largest class we have ever graduated". I began to wonder what the word "undoubtedly" meant in this instance.
>
> I thought that if he had said, simply, "This is the largest class we have ever graduated" I would have taken it as a statement of documentary fact, coming from the authority charged with assembling such documentary information. Since he didn't say that, I suspected that he didn't know for sure – had forgotten to look at the actual numbers – and was guessing. But since he also did not say, "This is probably (or most likely) the largest class we have ever graduated", I concluded that he wanted to pretend he was not guessing. To put it briefly, his use of the word "undoubtedly" created in me a good deal of doubt as to whether he knew this was indeed the largest class the university had ever graduated.
>
> But while his statement put itself in doubt, it also suggested a rich complex of meaning. There was a range of nuance which went further than his own communicative intent… It was a meaning which involved, in a negative way, the meanings of the other terms which could have been used in its place. Whether consciously or not, the Registrar had considered and rejected those words, and therefore the meaning of the word he did choose meant what it meant by contrast to the other terms in that little momentary 'molecule' of possibility (p. 13).

Note the role of discourse in the 'large' sense, the kind of discourse: namely, a speech at an academic ceremony. Note also the importance of the contrasting options which were available, i.e., the paradigmatic structure: no sentential modifier at all, the more modest modal "probably", etc. Finally, note the selection of the option "undoubtedly". Each of these is crucial for fixing the meaning – not just the last, which would be the focus of traditional views. So much is this the case that, as Caldwell notes, the dictionary meaning of "undoubtedly" – *not doubted or disputed, accepted as beyond doubt* – is excluded as the correct interpretation here.

A quick recap is in order. In the first section, I sketched some of our author's biographical background, and the origins of the present work. I also issued some caveats about how to read both his work and my Introduction to it. In the just concluded section, I canvassed three radical, 'immoderate', views which Caldwell rejected, and his grounds for doing so. I also introduced two key steps towards a superior account of language and meaning: various methodological precepts which block the path to extremes on the one hand, and insights shared with Functionalism on the other (specifically about the essential roles of paradigmatic choice, discourse/context and function driving form). The resulting admixture, to deploy a phrase which Caldwell does not introduce but seems to me to capture the nub of things, is a *Moderate Structuralism*.

The next section will present the theory of linguistic meaning which emerges from Caldwell's commitment to de-radicalizing Structuralism about language.

Caldwell on Linguistic Meaning

The single most important conception in Caldwell's positive account of linguistic meaning is the *molecule-selection-and-execution structure* (MSES). It is a very complex notion, especially for those coming to it from mainstream formal semantics. I will thus explicate it in several steps. I begin by fleshing out its triad of fundamental parts, each of which was hinted at above: namely, presuppositions/prior discourse, the molecule itself and the sign chosen. Once those are in hand, I will turn to how the parts combine into a whole.

Presuppositions/discourse was discussed immediately above. Here I will merely remind the reader that Caldwell highlights two senses of 'discourse'. What he calls "discourses in the large sense" are kinds of linguistic productions: instructions to a jury, the discourse of baseball, and so on. What he calls "discourse in the small sense" involves the here-and-now context of this speech episode, whether linguistic or non-linguistic.

The second part of an MSES is the molecule. Being original to Caldwell and multifaceted, it requires extensive comment. A molecule consists of 'counters' (also, if I understand Caldwell aright, sometimes called "terms", "tokens" and "markers"), which are potential options that a speaker may select. Importantly, not every paradigmatic alternative is included therein, since that would entail radical holism. Instead, the counters within the molecule are the *reasonable* options (reasonable, that is, in this context, for creatures like us, etc.). Caldwell purposely includes among counter-varieties what will strike some as an ontological hodge-podge. Counters can be salient worldly elements: "I believe that it is essential to recognize that language has the ability to appropriate experiential entities and bring them into discourse as deictic elements" (p. 35) and "We have to remember that the world is always there before our words are uttered; by bringing it into discourse by means of the molecular sememe, we turn parts of the world into language" (p. 43). Counters can be mental entities: perceptions, but also logico-conceptual representa-

tions. And counters can be signs, whether ordinary language words or other semiotic symbols. Finally, saying nothing at all can be a counter (e.g., an unenthusiastic response to "Who wants to play Charades?")

He includes all of these, first off, because to be a counter is to play a certain role; and many kinds of things can play the role in question, including plain old Earthly stuff, mental representations and words. (Compare the discussion above of what can serve as a rook in chess.) Caldwell, moreover, is suspicious of the alleged sharp dichotomy between worldly items versus the words which are supposed to stand for them. There are, however, additional reasons in favour of pluralism regarding kinds-of-counters. Some holistic theories of meaning, emphatically including various Structuralist ones, take meaning to consist *entirely* in relations among words. Thus "electricity" might have its meaning specified in terms of its relation not just to the words "voltage", "power" and "juice" but also to the words "wires", "light", etc. – but with no reference to worldly things like wires and light. What comes to mind immediately, when considering such a view, is what one might call "the Dictionary Problem": if every term in the Dictionary is defined merely by being connected with other such terms, how does actual meaning get specified for any? Caldwell, by including parts of the world itself among counters, does not encounter this problem. Related to this is a powerful advantage of including mental items among the counters. He wants his molecules to play a role in thought, not just in speech; and he wants them to be able to do so even when items in the molecule, or the molecule as a whole, are not associated with spoken words. Making a module be an ontological hybrid permits just this. (Caldwell even suggests that, being a hybrid, his notion could be applied to music and visual art. See p. 22*ff*.)

Within a molecule, the counters stand in relations to one another. Caldwell stresses that this is not a matter of a mere list of members. At a minimum, there is typically a ranking as to (dis)preferred order, thereby giving rise to Markedness phenomena: if the counter selected is lower down the order, there will be an interpretive effect of some sort. (As befits his methodological proclivities, Caldwell happily allows exceptions to this generalization, noting that the ordering within a molecule can sometimes be merely an unranked list. He mentions 'Coffee, tea or milk?' used years ago on airline flights.) More deeply, he conceives of the relation as more like a symbiotic relationship within an ecosystem (p. 71), with each node's meaning being partly fixed by its interactive place in the 'web' (to use Quine's famous metaphor). (See p. 38 and elsewhere for his useful image of a struggle within an 'arena'.)

The final part of the molecule is the actual counter chosen from among all of the paradigmatic options. In linguistic cases, this will be the word actually selected and produced by the speaker.

Let us revisit (1) as an example. The first part of the molecule will be the 'presuppositions', in Caldwell's distinct and innovative sense. For instance, they might include that the discourse type is technical/mechanical, but among friends. And part of the antecedent discourse, in the 'small' sense, are the prior words: "Let's put the voltmeter on the starter solenoid and see if it's getting any". In terms of counters, the molecule could include within it the English words "electricity", "power" and

"juice". And it might contain, for the expert, logico-conceptual mental representations for which she lacks a word, and also worldly phenomena (e.g., the tests for voltage) which she has experienced. The final part is the word "juice" – the counter actually spoken. Turning finally to the relations among the counters – as influenced by the 'presuppositions', the counter "juice" will be ranked lower than other options in a technical interchange, so this choice will signal something about the speaker's attitude or goal (a certain playfulness among the friends, for instance).

Caldwell contrasts two sorts of molecule, both involving a web composed of counters of various sorts. The fundamental sort, which he sometimes calls "process molecules", pertains to particular speech episodes. These are created on-the-fly, and their counters are an *ad hoc* and highly dynamic set of options, fitted to this particular context. The other sort of molecule is what he labels conventionalized "contrastive sets" (p. 14*ff*). If a molecule of the first sort gets repeated enough, always associated with the same word form, then a conventionalized molecule can be formed. (I myself think of these as '*fossilized* process molecules' or 'process molecule *schemas*'.) These latter pertain to the shared tongue and attach to word types rather than utterances thereof. For Caldwell, linguistic meaning mostly 'flows up' from molecules in his first 'process' sense to molecules in his latter sense: "The most radical implications of Molecular Sememics, then, are owing to its notion that meaning is created in immediate and local speech rather than in the systematics of Language, in a momentary dynamic involving the immediate juxtaposition of a term with its molecular 'Others'" (p. 22). Nonetheless, he recognizes that a 'fossilized module' can be drawn upon to impose some 'top-down pressure' on utterance meaning. Thus, via a kind of feedback loop, the fairly fixed sort of molecule, solidified into conventionalities as a result of repeated use, derives from the *ad hoc* kind; but the former also has an impact upon on-the-fly molecules.

I have been surveying the parts of a molecule-selection-and-execution structure, leading up to explaining how those parts get integrated. Before moving forward, some clarifications might be useful. First, it is essential to understand that the triad just presented does not 'have' meaning; for Caldwell, this is what meaning *is*. Second, though he often speaks loosely as if it is the molecule which is the fundamental meaning-bearer, this is strictly speaking not the case. For meaning properly so called, all three parts of the MSES are required. Patently, for him, the word and its referent won't suffice: that would exemplify the kind of atomism he most emphatically rejects. However, his reaction against the tradition runs deeper than this: to grasp the full meaning, the hearer needs to know what it was about the worldly and linguistic context which precluded those options which were not chosen. In short, the fundamental locus of meaning requires: a discourse context; a selected molecule; and the execution (by means of choosing one of the counters). Put in a slogan, it must be *molecules as marked by the name-used and appearing in a context* which are meanings. It is this very recherché construct which Caldwell baptises the *sememe*. He writes:

> The meaning belongs to the contents of this unit as a whole, *as marked by* (perhaps we could say *"as prejudged by"* or *"as prejudiced by"*) the chosen name. Thus, the meaning does not belong to the word itself, but to the molecule, and to the discourse that chose and

> focused the contents of that entity. I call the named molecule the "sememe", for it is, I think, the fundamental unit of meaning in language (p. 40).
>
> The fundamental unit of meaning in language, the sememe, in this view, is not a word, a morpheme, a phoneme, or (even smaller) a 'semantic feature'. Rather, it is a larger synthetic structure – the small 'molecule' of possible counters from which one is chosen at any salient decision-point in the creation of an utterance (p. 91).

The foregoing merits stressing because it is not expression types but rather *utterances*, i.e., rubber-hits-the-road speech acts, which exhibit 'sememes' according to Caldwell. Though these are fleeting (and their content very contestable), nonetheless, fundamentally speaking, they are the meaning-bearers. Granted, as we just saw, repetition can give rise to conventionalized contrastive sets; as a result, not just the utterances but also the contrastive sets can 'have meaning' in a derivative sense, viz. in terms of their potential coercive role in actual utterances. But, at bottom, utterance meaning is 'the real deal'.[3] (When Caldwell writes of 'the meaning of a word', he will almost invariably be talking about the meaning of a token, not of a type. That is why he non-chalantly speaks of word-meaning as being so changeable.)

With all of these preliminaries in place, it is now fairly straightforward to explain the MSES itself. I will approach it from the perspective of an interpreter, rather than a speaker. The first step, corresponding to molecule *selection* in Caldwell's nomenclature, is the hearer's identification of the 'correct' molecule: the most salient one. Given the foregoing, that amounts to identification both of its counters and of the relationships among them. This will be 'coerced' (to use Caldwell's technical term for this) by a number of things, including discourse in the 'large' sense (i.e., the kind of 'language game' being played), discourse in the 'small' sense (e.g., the fossilized molecules associated with the previously spoken words), the presence of other semiotic signs in the exchange, knowledge of our actual humanly experienced world, things local to this time and place, etc. The second step, corresponding to *execution* in Caldwell's nomenclature, is identifying the counter actually used. The result is what was described above: not merely the referent of the counter used (nor anything else comparably 'atomic'), but also the options that were available but were not chosen, and so forth.

Revisiting the analogy of chess, the analogous 'counters' therein would be the moves available at a given point in the game – interrelated, and ranked in terms of salience, rather than merely constituting a list. Moreover, consistent with Caldwell's moderate, molecular holism, not every potential move would be among the counters: for instance, pointlessly taking a random pawn need not be. If that is a 'chess

[3] I find here deep affinities between Caldwell's framework and Ordinary Language Philosophy, including especially the variant found in the later Wittgenstein. However, though he mentions J.L. Austin, along with Wittgenstein's *Philosophical Investigations*, it seems to me that Caldwell arrived at a similar place but not due to their direct influence. (He is also a fellow traveler with my teacher Michael Gregory, especially in insisting upon the role of the cognitive in meaning-making – but that is unquestionably a matter of 'ideas being in the air' rather than a causal influence. See *Michael Gregory's Proposals for a Communication Linguistics*, edited by J. de Villiers and R.J. Stainton.)

molecule', the analogy of 'molecule selection' would be sorting out which molecule is in play: e.g., what the potential moves are, but also how they are ranked. As with talk, the selection of the molecule is 'coerced' by a host of factors: what kind of gambits the player has been pursuing so far, her larger aims, other specifics about the board, etc. The next analogy is with execution, which would consist in picking up a chess piece and moving it to a new position. Importantly, the significance of moving precisely that piece in precisely that way includes not only which option the player did opt for, but also the ones she did not.

Here again, chess provides another helpful point of comparison. There are two senses of 'moves', analogous to the *ad hoc* process molecule and the conventionalized contrastive structures respectively. There are moves here and now, in this game. But there are also *kinds* of moves, e.g., openings and gambits, with more or less flexible instances. Continuing the analogy, moves in the latter sense are patterns of moves in the first sense, and are hence posterior. That said, and taking into account the rest of the feedback loop mentioned above, they do play an important role in sorting out which specific molecule is at issue here and now. They do not come close to fixing it – much more is required for that – but they have an important role to play.

My discussion of the molecule-selection-and-execution structure, and of the resulting sememes, has been brief, and leaves many questions open. To echo a point I made at the outset, this Introduction can only serve as a rough-and-ready entryway to Caldwell's work in linguistics. (The patient reader will, thankfully, encounter many more details in the texts published below, and can thereafter jettison my oversimplifying 'ladder'.) There is, however, one question left open which a contemporary semanticist will categorically expect Caldwell to address, yet which he mostly does not. By way of epilogue of this section, I will discuss this seemingly crucial missing element, namely a compositional semantics for sentences.

It's fair to say that a central focus of contemporary linguistic semantics – maybe even *the* central focus – are combinatorial semantic rules for deriving sentence meanings from their part meanings together with grammatical structure. Such is the legacy of Frege. Now, Caldwell does not provide anything like a sentence-level grammar in the sense of algorithms for building trees: i.e., what were labelled above "syntagmatic relations" among words within a sentence-level structure. He does suggest that they are collections of paradigmatic choices, and that their form is driven by discourse function, but not much more. Still less does he provide explicit rules for calculating sentence meanings on the basis of such structure, together with the molecules associated with the sentence's morphemic parts.

Old hands will find this a truly glaring omission, and it merits explanation. Caldwell has not, as it were, 'forgotten' this essential topic. He has set it aside. First, this is due to his alternative focus, driven by his academic motivations and his sense of what has been improperly de-emphasized by others. He maintains that overemphasis on explicit rules, of the sort contemporary formal semantics trucks in, has steered us wrong – both in terms of what to look for, and in terms of enticing the meaning theorist to ignore crucial phenomena which are relevant even to her own goals. In particular, insofar as the omission of compositional sentential semantics in

general, and the role therein of sentence-structure in particular, can be justified, it is justified by Caldwell's sense that what he calls the "paradigmatic" has been largely ignored in the 'formalist' tradition. Second, the setting aside is due to Caldwell's scepticism about whether type meaning *is* compositional. He denies compositionality for utterances: as we just saw, according to him there is *much* more that goes into a token sentence's meaning than the parts it is made up of and what each part, taken in isolation, means – even if one follows Caldwell in taking part meanings to be fairly rich fossil-type molecules, as opposed to, say, a mere referent. He also holds that, strictly speaking, word and sentence types do not have meanings – because, *strictu dictu*, meanings are specific and fully fledged molecular sememes, and those only emerge in actual speech episodes. What word and sentence types have are mere potentials of a certain sort, to be manipulated in a speaker's purposeful effort to create meanings in the genuine sense. Given this, he is very likely to deny compositionality for sentence types too, so that the 'problem of explaining it' just does not arise.

Many of my fellow formal semanticists will find Caldwell's stance here frustrating. I can't claim immunity from such frustration myself. My counsel, to echo the words of Peter Shillingsburg at the beginning of his Foreword, is to approach Caldwell's texts looking "for weaknesses to be fixed and for strengths that are hidden". There's no getting around it: Caldwell simply fails to address some of our mainstream questions. But there are other gems to be found in his writings.

Applications

Mainstream formal semanticists and philosophers of language are fascinated with language *per se*, and so was Caldwell. But he contrasts with them in that he approached language from the perspective of quite different career-long pursuits: he was drawn into semantics *qua* writer of short fiction and poetry, literary critic and Professor of English. Now, it has been conceded that this unorthodox academic trajectory, as compared to the more typical formal semanticist and philosopher of language, brings some weaknesses in its wake. Be that as it may, his distinctive perspective was the source of both strength and novelty. Specifically, as hinted above, it was in part his search for a theory applicable to literary texts which left Caldwell dissatisfied with the triumvirate of extreme approaches. Radical Structuralism, recall, aimed too high; and in order to come even close to achieving its overly lofty aims, it ended up divorcing theory from actual human talk. As a result, it was wholly inapplicable to literary products. Meaning Nihilism aimed very, very low, essentially giving up on the entire enterprise, characterizing talk as so much noisy anarchy. And Radical Empiricism, while it aimed a bit higher, remained improperly satisfied with ground-level description, thereby yielding little insight into sophisticated texts.

Coming at things in terms of Caldwell's positive views, his insistence upon an overarching theory of language which applies to both ordinary talk *and to creative writing* underlies what I dubbed his Moderate Structuralism – both with regards to

its methodological precepts and the substantive ideas it shares with Functionalism. That same insistence underlies his development of the molecular sememe as the crucial posit within a theory of meaning. A valuable way to conclude this Introduction, then, is to survey two illustrations of how the views explained above apply to the interpretation of literary creations.

As a first illustration, recall a conundrum which dominated twentieth-century literary theory, namely scepticism about finding the correct meaning of an author's text. On the one hand, it seems that genuine success in textual interpretation requires identifying the exact propositional message which the author intended. On the other hand, all the reader has before her are words on paper. The problem is that no amount of the latter appears to be sufficient to arrive at what interpretive success allegedly requires.

One highly controversial response, a cousin of Meaning Nihilism, was simply to give up on finding any such 'correct meaning of the text'. There is no potential failure to 'find the correct meaning', because there is nothing there to find. The sought-after meanings are illusory. As a result, there just is no sceptical conundrum to address. Caldwell, consistent with his penchant for moderation, thought this went too far: "Postmodernism's discovery of the "total indeterminacy" of the text is also a gross exaggeration" (p. 95). It is his alternative response to the sceptic which constitutes our first illustration.

He approaches this problem from two directions. First, the sceptic's criteria for successful literary interpretation are too demanding. Second, she underestimates the resources available to meet more reasonable ones.

Pace the sceptic, Caldwell denies that a successful interpretation of a poem or work of fiction requires arriving at one determinate meaning. Still less does success require that one find such a single determinate meaning via a blind, formal, exceptionless and universal algorithm. (As an epistemologist would put it, that the reader lacks a guaranteed method does not mean that she never arrives at a satisfactory result.) Instead, in terms of its end point, a successful reading can involve indeterminacy of a limited sort, for that is part and parcel of the kind of 'system' ordinary language is.[4] Nor is this a lamentable limitation: given the kind of agents we are, such open-texture is actually a superior adaptation. In terms of the reader's hermeneutic tools, they are very different from the fully global code which was the holy grail of certain semioticians. The author, in writing, draws on flexible skills for providing clues, not formal structural rules which can be applied blindly. The reader is therefore permitted to deploy the same: e.g., that she draws on heuristics, educated hunches and family resemblances does not mean that she must fail.

There is another sense in which the difficulty of the reader's and critic's task gets overstated by the sceptic: it can seem to the pessimist that there are an unlimited number of potential readings. Caldwell has the theoretical resources to urge that this is not so. Yes, it is part and parcel of his view that paradigmatic choice is essential

[4] A case in point, as discussed in Chap. 8: that there is some uncertainty about whether Hemingway's Mrs. Macomber killed her husband on purpose is not a failing of his tale, but part of its lasting literary significance.

to interpretation; however, as we saw, the 'arbitrariness' with respect to the potential meanings is limited. In the given 'local' environment, only a relative few of the potential molecular 'counters' are reasonable, and the reader only needs to select among those. (To put it another way, radical holism may well lead to scepticism about meaning, but radical holism should be replaced with a more moderate option: the molecule of meaning.)

This leads to the second half of Caldwell's anti-sceptical rebuttal. In addition to demanding a foolproof algorithm, the sceptic misconstrues the permissible interpretive tools in another sense: he radically understates the reader/critic's interpretive resources. It is emphatically not the case that all one has to draw upon are the words on paper, and their (alleged) standing meaning in the shared 'system'. Caldwell, recall, rejects a sharp word/world divide, hence the very idea of being provided only with 'mere words' is already a false step for him. More specifically, his molecules include elements of the perceived world. (The discussions of Stevens' poems "An Ordinary Evening in New Haven" and "No Possum, No Sop, No Taters" illustrate especially well the importance of this.) Recall too the crucial role of discourse, in both senses, in helping to determine meaning. For instance, note the importance of discourse in Caldwell's 'large' sense in his reading of both Wallace Stevens in Chap. 7 and Richard Ford in Chap. 8. That "No Possum" is part of Stevens' series of mid-winter poems is essential: knowing that it is that *kind* of poem yields a superior reading of it. Similarly, understanding Ford's short story "Issues" requires recognizing that both it and Hemingway's original prototype story "The Short Happy Life of Francis Macomber" fall into the same sub-kind: a man facing sexual betrayal and violent death. Turning to the 'small' sense, Caldwell's notion of coerciveness of the immediately preceding discourse allows in a large swath of pertinent interpretive evidence. 'Presupposition', in Caldwell's technical sense of that term, can be vast: it would include, e.g., that Richard Ford felt himself, across his entire career, to be in competition with Hemingway. Another essential tool in the interpreter's kit are adjacent non-linguistic semiotic systems and, relatedly, what may remain 'unsaid' because of our shared world, and our shared biology and psychology (p. 113). Finally, Caldwell reminds us of the plain-old cleverness of the dynamic-insight sort which readers bring to bear – a scepticism-defeating skill neglected by much classical semiotics.

In short, Caldwell has the linguistico-philosophical wherewithal to overcome radical scepticism about literary interpretation. To begin with, suggests Caldwell, the sceptic presents us with a false dichotomy: *Either* we must achieve complete success, in the sense of a guarantee of one perfectly precise and determinate reading *or* we must grant that 'the author is dead'. Demand something more reasonable for what counts as 'success', and the threat already lessens. In addition, while it is quite reasonably granted that the 'standing linguistic code', as applied solely to the words before us on the page, is not all-encompassing enough to fix 'the correct reading', these are by no means the only tools in the reader's kit. (Note that several of Caldwell's methodological precepts are brought to bear here: undertaking an appropriately modest, achievable goal; not asking the abstract system to do all the work; and not detaching/divorcing language from psychology, biology or our 'life-world'.)

I proceed now to the second illustration of how Caldwell's views on language and meaning intersect with the interpretation of fiction and poetry.

One might encapsulate the first illustration as follows: "Caldwell simultaneously insists that less is required for interpretive success, and that we have unheralded tools at our disposal". I think this description is correct, so far as it goes. Nonetheless, it is misleading because Caldwell also maintains that the critic's goal can extend *beyond* finding 'the intended propositional message'. Complete success, to the contrary, entails uncovering the molecule-selection-and-execution structures in the text – that, after all, is what meanings strictly speaking are. 'Success' therefore entails, in part, finding the reasonable counters given the context, whether they be linguistic, mental or worldly. It equally entails identifying the words the writer could have 'executed' but did not, their comparative ranking, and so on. (Speaking of the latter, part of a fully successful reading of a text is highlighting the author's marked choices: e.g., when a lower ranked counter is the one which is 'executed'. An excellent example is Caldwell's discussion, in Chap. 7, of the verbs of action in Stevens' "No Possum"; see p. 99*ff.*)

The demand that the interpreter consider paradigmatic structure and the author's ultimate linguistic choice yields richer literary rewards. As an example, consider the name of Ford's female character. Among the logically possible 'counters' for the heroine of "Issues" are "Alice", "Blaise", "Carlotta", etc., though many are not 'locally' relevant. Among the reasonable ones given the discourse-context is "Margot", for that is the name of Francis Macomber's wife in Hemingway's story. And this presence of "Margot" among the viable potential choices carries information, on Caldwell's approach – so that the ultimate meaning of the proper name "Marjorie", the actually 'executed' term, is definitely not exhausted by its referent. In sum, rethinking the appropriate interpretive goal, Caldwell also *increases* the demands on the critic somewhat, to include sorting out what the 'arena' in the text is, and what the 'struggle' was among the options – not just 'who the winner was' (i.e., which word was tokened).

I end by revisiting my warning about the limitations of this Introduction. I hope that it will indeed serve as a useful point of departure for scholars first encountering Caldwell's rich and demanding work. I hope it will serve, moreover, as an entryway for those who will eventually manage the careful exegesis that I have not even aimed for here.

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Part I
The Theory

Chapter 1
The Epistemologies of Linguistic Science: Reassessing Structuralism, Redefining the Sememe

Since the nineteenth century, students of the science of linguistics (as opposed to grammarians, philologists, natural philosophers, and cultural historians) have wanted to put the discipline onto a solid scientific footing. To be 'scientific'[1] has meant, since the Enlightenment (with its stories of Galileo vs. the Church), to base one's arguments on close observation of nature rather than the appeal to authority, dogma, or the classics of Greek or Roman literature. Yet there can be no such thing as pure observation. It is always conditioned by what constitutes data, what its instruments of observation are, and the problems of assembling particular observations into general ones, so that useful conclusions or deductions – the meaning – can be gleaned from it.

In the study of the behavior of signs, as opposed to natural events, empirical methods are especially problematical. Partly in answer to this complaint, a Structuralist methodology was developed specifically for use in sign systems. It proved an exciting and productive alternative to empiricism for a short time, and then failed. My task here is to revisit the history of Structuralism in order to try to understand the cause of the failure, and to consider whether any part of it can be resurrected. I think it can, and I want to show how.

[1] [Editors' note: In the majority of cases, Caldwell used double quotes to mention a word or to cite a passage. And, as here, he used single quotes for so-called 'scare quotes'. For the sake of uniformity, we have imposed these quotational conventions on the book as a whole – including occasionally altering Caldwell's source texts, to make them conform as well.]

T. P. Caldwell, *Discourse, Structure and Linguistic Choice*, Studies in Linguistics and Philosophy 101, https://doi.org/10.1007/978-3-319-75441-3_1

1.1 Linguistic History

1.1.1 From Empiricism to Structuralism

As scientific observation became conventionalized in Western civilization, the practice of observation came to mean a specific procedure: first identifying objective entities and then assembling 'facts' about them. 'Facts' are, I take it, true statements about the behaviors of these entities. Assemblages of facts with common 'attributes' are first used to distribute the 'facts' into 'categories' by a process called 'induction'. But what are these entities? For physicists, it was (for a while) the atom. For chemists, the molecule. For philologists, the word. While human speech is a natural phenomenon, in the sense that it is a manifestation of the physical voice box and articulatory apparatus, human language itself is not. But even in phonetics, a little thought makes it clear that identifying the fundamental entity of any science is not straightforward, but rather something that is complicit with methodological theory. Now, with modern equipment, we can visualize any piece of human speech as a squiggle on an oscilloscope, and even digitize the squiggle. The trouble is – and this is the problem with raw empiricism – every squiggle is different. Before we can use these digitized results, we must find a way of generalizing them into common principles. And even then we find no necessary correlation between the pure sound and the meaning indicated within a human language.

In short, empiricism immediately requires methodological theory. So phonologists were grateful when Baudouin de Courtenay, in the 1880s, proposed the idea of the 'phoneme', a minimal sound element that made a difference in meaning. But this unit was not a sound that was classifiable by its physical attributes, for its physical attributes were irrelevant. This notion turned out to spawn a whole new epistemology for the investigation of sign systems.

The man who most importantly exploited the importance of this discovery was Ferdinand de Saussure, whose book (made from lecture notes by his students), *The Course in General Linguistics*, created the idea of a *semiology*, a science of signs. It had two main features. One was the "arbitrariness doctrine" – the idea that the meaning had no relation to the physical features of the sound. Instead, meaning derived from the differential between one sign and all the others in the language. The other was the idea of the system itself – a synchronic, static slice of language use at any one moment in the ongoing flux of time. To see it as a complex set of abstract relationships rather than a random collection of speech acts, full of slang and dialect, helped greatly to bring order out of chaos.

Saussure's work allowed linguists to look at the problem in a new way – an essentially unempirical way – and became the most important contribution of what came to be known as Structuralist method. The idea of the differential meaning – the "emic" (as in "phonemic") as opposed to the "etic" (as in "phonetic"), in which meanings were systemic yet arbitrary, became the most successful idea in Structuralism.

Structuralism taught us that the structural relations of elements, not their physical characteristics and features, were the important thing. Saussure's great contribution was to see language not as a set of words and their historical meanings but as a system of semantic oppositions and contrasts. Louis Hjelmslev, Saussure's disciple, immediately set out to categorize distinctions between the content plane and the expression plane, between internal and exterior relations among signs, between language as system and as a process, between the syntagmatic and paradigmatic relationships among words. His vision of language as a *system* – by default a *single* system – a structure of interlocking syntagmatic and paradigmatic categories in a two-axis coordinate system – emerged as a compelling vindication of the methodologies then current, and their best illustration. By 1943, Hjelmslev predicted the universal acceptance of a seemingly unarguable set of assumptions – without which, it seemed, science itself could not exist:

> *A priori* it would seem to be a generally valid thesis that for every *process* there is a corresponding *system*, by which the process can be analyzed and described by means of a limited number of *premises*. It must be assumed that any process can be analyzed into a limited number of elements recurring in various combinations. Then, on the basis of this analysis, it should be possible to order these elements into *classes* according to their possibilities of combination. And it should be further possible to set up a *general and exhaustive calculus* of the possible combinations. A history so established should rise above the level of mere primitive description to that of a *systematic, exact, and generalizing science*, in the theory of which all events (possible combinations of elements) are foreseen and the conditions for their realization established. (Hjelmslev 1961, p. 9)

This marked a new concept of science – not exactly empiricism, but the next best thing: systematics. An explanation could claim objectivity if it could boast of systemic consistency. No longer were we to concentrate on words and their histories; we were to see the language at any historical moment as an idealized set of relationships. Every word had a value based on its relation to every other word in the system. Systems of differentials could, linguists believed, provide the basis for semantics, syntax, and even discourse-sized bodies of thought. It came to be realized that the two principles – the differential and the system – were co-dependent. That is to say, the differential was meaningful only in a context, and the concept of the Language as a System provided that context. Or so it seemed.

But results were mixed. For large discourse-level bodies of thought, the "emic" method was successful. Increasingly, the Structuralist method was applied to psychology, history, philosophy, sociology and politics, with exciting results. For Roland Barthes, for example, the ephemera of local fashion and popular art were always to be seen as versions of durable myths: *figures* finding their meaning against the *ground* of universal pattern. But it didn't work for language itself, either for the syntax or the semantics. Even with the best efforts of European linguists, especially those associated with the Prague School, where Saussure's influence was greatest, it couldn't generate the grammatical categories, and it couldn't predict the semantic meanings of words as found in dictionaries.

What could have been the problem? If this key structuralist idea had proved as successful in morphology, syntax, and semantics, as it was in the phonology, likely

there would have been no second-guessing it as a method of inquiry. But it wasn't. While the Europeans continued to work within the Structuralist method, the first instinct among American linguists was to reconsider the method. One flank, led by Leonard Bloomfield, returned to a raw empiricism in which there was no place for theoretical principle, philosophical generalization, or even explanation. The other, led by Jakobson, tried hard to protect the principle of arbitrariness, but had to admit that words and morphemes, unlike sounds, had objective and necessary meanings of their own without regard to their relations to other words. His example was the plural ending in German – a predictable sound that always had an objective meaning: the meaning of plurality. He concluded that what was true of phonemes was not true of any other part of the system. In 1943, he wrote the obituary for a pure Structuralism as the key to the semantics:

> So the phoneme, this cardinal element on which everything in the linguistic system hinges, stands in contrast to all the other integral parts of this system, and has a completely exceptional and distinctive character, a character which is not to be found in any entity analogous to the phoneme in the other sign systems. There is no entity similar in this respect either in the language of gesture, nor in that of scientific formulae, nor in the symbolism of heraldry, the fine arts, or ritual… Only the phoneme is a purely differential and contentless sign. The phoneme's sole linguistic content, or more generally its sole semiotic content, is its dissimilarity from all the other phonemes of the given system.
>
> Therefore language, in the narrow sense of the word, is distinguished from other sign systems by the very basis of its constitution. Language is the only system which is composed of elements which are signifiers and yet at the same time signify nothing. Thus the phoneme is the element which is specific to language… Language (in this sense of being constituted of phonemes) is the most important of the sign systems, it is for us language par excellence, language properly so-called, language *tout court*, and one might ask whether this special status of phoneme language is not due precisely to the specific character of its components, to the paradoxical character of elements which simultaneously signify and yet are devoid of all meaning. (Jakobson 1978, pp. 66–67)

I don't want to oversimplify Jakobson's careful and influential work on the phoneme in this brief summary. It is clear that he wanted badly to protect the Structuralist principle of the differential, but he also wanted to give his study a firm empirical basis. Thus, a 1949 article argued that Serbocroatian phonemes could be coded as combinations of the presence or absence (+ or −) of six distinctive articulatory features, including vocality, nasality, saturation, gravity, continuousness, and voicing (Jakobson 1949, p. 421). This meant that now linguistics could claim to be empirical, based once again on a fundamental entity, the "articulatory feature". The advantage of a computational taxonomy was apparent to all, and it reassured everyone that now linguistics was in the mainstream of modern science. As Jakobson said at the end of his article, "Linguistic analysis, with its concept of ultimate phonemic entities, signally converges with modern physics, which has revealed the granular structure of matter as composed of elementary particles" (Jakobson 1949, p. 425). In short, linguistics could be said to be like physics, in that both of them were based on atoms. That is, language too had its elementary particles: if not atoms, at least phonic elements – culturally distinct articulatory features.

But in 1955, he abandoned cultural distinctiveness by rejecting Saussure's and Hjelmslev's argument that the differential character of the phoneme did not depend on its phonic substance. By then he had found "inherent" features in universal physical articulation. With confidence that the whole world's phonemic production could be accounted for by 12 'inherent' features and a few 'prosodic' features, Jakobson was ready to claim universality for his theory of distinctive features as an information-encoding structure. He called it Markedness Theory. By subdividing the phoneme into distinctive features, Jakobson had redefined the differential as *binary opposition* (Jakobson and Halle 1971, p. 497*ff*). This achievement was an empiricist's dream. He found a way to *encode* the complexity of meaning as a simple mathematical formula.

1.1.2 Structuralism As System: Philosophy, History, Anthropology, Sociology

With Jakobson's apparent success in identifying fundamental entities and returning linguistics to the realm of empirical science, linguists immediately set out to apply his method of feature analysis to the semantic system. Thus, Umberto Eco in his 1976 book *A Theory of Semiotics* concluded that just as a phoneme is a "bundle of more analytical distinctive features … [so] the same internal network of mutually opposed features should also rule the differences between two sememes" (Eco 1976, p. 84). This effort, like Hjelmslev's effort to codify the morphology in the same way, indicates a cardinal tenet of the empirical method – that whatever the structure of language is, it must be *systematic*. That is, it must follow *one* set of rules, because the truth is one, and because the system must be unified.

This emphasis on *systematicity* has become part and parcel of what we understand to be the scientific method. It is not part of the original meaning of empiricism, which simply meant "based on experience without regard to theory". While the idea of Language as a single system of relationships was understood by Saussure as a convenient heuristic which made analysis possible, he understood that it was an idealization, not a fact. What we have to account for is that Structuralism as a method for analyzing systems has failed in describing either the syntax or the semantics of ordinary language, despite Eco, even though it was extremely powerful when used for large philosophical and cultural discourses.

Thus, systematicity and its attributes have been at the focus of much thought since then: witness Structuralist philosophy by Roland Barthes, anthropology by Claude Lévi-Strauss, history by Michel Foucault, and narrative systems by A.J. Greimas. At first it appeared, with the influence of Karl Jung's archetypes, that systematicity implied universality, as if human culture had fundamental grounding in genetics or a kind of 'human nature'. That is to say, structures with well defined centers and settled boundaries. But when their centeredness was questioned by Post-structuralist philosophers such as Derrida, suddenly a great many stable ideas became destabilized, with political and ideological repercussions in every field, even science.

Derrida's argument was one from phenomenology: that large systems are not "centered" because of their own objectivity or universality, but merely because they had been "constructed" within a single political or cultural point of view. By critiquing the oppositions underpinning such systems (male/female, for example, or selfish/altruistic or socialist/capitalist) he showed that they aren't so systematic when you remove their exterior political and cultural supports: rather, they become free-floating, even self-destroying relativities which reveal their counter-arguments as well as their arguments. Post-structuralism became enormously influential in the 1970s as philosophers learned from him how to de-center and deconstruct history, sociology, and political science. As the constructedness of these systems became apparent, various ideologies rushed to re-construct them, especially post-colonialism, Marxism, and feminism. With their emphases on race, class and gender, all of these fields seemed by the 1980s to have become branches of a radical kind of cultural anthropology preaching a kind of "transformational" and "liberational" ideology that is still current in some places.

1.1.3 The Move to Computationalism

In the scientific enterprises, especially in linguistics, systematicity took a different direction. Chomsky took Saussure's idea of *la langue* almost literally, proposing a frankly Cartesian kind of mentalism that almost denied empiricism altogether. For him, Saussure's idea of language as an idealized system was to be taken not as methodological heuristic but as axiom (Chomsky 1965, pp. 28*ff*). It enabled him to convert language competency to a set of logical rules, all syntactical relations being necessary rather than contingent, and thus to see language as a set of blind computational formulae.[2] Insofar as they pretended to be empirical, his formulae claimed to account for language 'facts' in the form of grammatically possible individual sentences. For Chomsky and his descendants, all relations in language are syntactic ones, and sooner or later a Universal Grammar, a UG, will be found to lie at the bottom of all languages human beings are capable of learning. In more recent formulations such as Optimality Theory, the UG is a purely computational set of rules, from which the grammar of any language can be derived by a particular set of constraints on the UG. Now the dominant school seems to be Cognitive Science, whose goal is to describe all mental functioning as based in a purely computational 'mentalese' (*cf*. Pinker 1994) – universal, genetic, hard-wired, and computable.

[2] For criticisms of the formalism from a formal point of view, see Quine (1972).

1.2 Reassessing the Problem

One recent reaction to the politicization of post-structuralism and the failure of Structuralism to account for the semantic and syntactic systems of language is to retreat into a kind of pure empiricism. Paul Hopper and Sandra Thompson, for example, seem to have backed away from theory in a radical way, questioning not only the idea of a semantic system, but even the concept of grammar itself, seeing it as a fuzzy, derivative, weak tendency toward patterning perhaps, but not as a coercive set of rules (Hopper and Thompson 1984).[3]

I think they are on the right track but for the wrong reasons. Their instinct is to move away from system toward data. They distrust Structuralism as a method because they identify it with the kind of systemic philosophy that led to Cognitivism. But I think any move back toward a pure empiricism in the study of syntax or semantics would be a mistake.[4] For that means to stay within the *etic* view of things. In order to clarify why it is a mistake I must return to Jakobson.

When Jakobson found that all phonemes could be accounted for as bundles of universal phonetic features, he took himself to be accomplishing two important tasks: to relate physical features to linguistic meaning, and to provide a computational basis for the science. But the 'universal' phonetic features told us only about the commonalities of human mouths over all the world. All people have the same sound-producing structures, so the sounds they are capable of producing are, more or less, the same the world over (not that there isn't a huge variety in their choices of the meaningful ones). The second objection is that Jakobson related these sounds to *information*, but not to meaning. In retreating to the *etic,* Jakobson abandoned the *emic,* and the *emic* is the source of meaning.

In short, the desire for scientific respectability led scientists in the twentieth century mostly in two directions – one the empirical, the other the systemic, both reflecting the received wisdom of classical reasoning as either concrete or universal, and both with the received faith that they are related logically to each other. Indeed, the very idea of induction requires such an assumption. The data, we think, must be a manifestation of the system, and the system must be implied in the data.

But Structuralism offered us an alternative view, and we should not have abandoned it so hastily. It should have taught us that language is a human invention, a manifestation not of universal logic, but of our synthetic minds. The prejudice in favor of systematicity led early structuralism into a dead end. Jakobson couldn't make the differential work as a source of meaning within the assumption that Language was a single system, so he gave it up. I think he should have entertained

[3] Paul Hopper once told me in a personal e-mail that this article had been described by one of his colleagues as the first "postmodern" article in linguistics. This characterization suggests that grammar can be deconstructed by the same methods as any other ideology or discourse, and perhaps should be. My take is that it shows that grammar is a set of conventionalizations rather than a set of rules.

[4] Of course, in many branches of linguistics – dialectology, discourse analysis, and other kinds of applied linguistics – empiricism is still the method of choice, as it should be.

the idea that language expresses the structure of mind, not the structure of logic. Human consciousness is synthetic, *gestaltish,* contingent, and sequential; not analytic, categorical, necessary, or syllogistic.

1.3 A Counterproposal: Redefining the Sememe

Jakobson should not have given up the *emic* principle of structuralism in favor of the *etic* principle of empiricism. I want to suggest a way to resurrect the differential as a tool of language study. It requires two simple adjustments to the classic Structuralism program. One is to realize that Language is not a system, but rather simply a collection of tools for creating discourses. It is within particular speech acts, not language as a whole, that we can find semantic consistency. The 'systems' within which differentials define meaning are, I believe, discourse-sized systems. Of course there are words whose meanings carry consistency from one discourse to the next, but that is the result of an unsystematic process of conventionalization.

Louis Hjelmslev identified the two dimensions of discourse as the syntagmatic and the paradigmatic. I propose a small adjustment in our thinking about each of these dimensions. First, we must recognize the contribution of *salience order* to syntagmatic structure. Every act of speech begins by locating itself within something familiar in the ongoing public discourse, and then moving by controlled degrees of increasing specificity to a clear argument or predication. This is more easily seen in Japanese than in English. No Japanese nouns are marked for number, gender, case, or determinacy. They are truly abstract entities which are easily identified in a dictionary, but require additional markings before they are used in discourse.

We should think of English in the same way. When we use nouns in discourse, we mark them with determiners, number indicators, prototypicality,[5] and word order to indicate their rank in a salience order.[6] Salience order is, in essence, the relevance order of the elements in the discourse. The most-salient element – the most-marked or the most-recently-marked element – is the point of focus at any moment in the generation of discourse, and I suggest that it is at that point that Hjelmslev's second dimension, the paradigmatic dimension, becomes operative.

[5] In the sense of Eleanor Rosch's theory of prototypes, as applied to grammatical categories. That is, some nouns are more "nouny" than others. For example, in the phrase "six-foot fence", "foot" is a noun in a subordinate position, and cannot be made plural like nouns in more salient positions can. It can be said to be less prototypically a noun in this position, and this is why I suspect prototypicality indicates rank in discourse salience. See Rosch (1975) and (1978), Lakoff (1987), and Hopper and Thompson (1984).

[6] This may be the answer to Jakobson's argument about German plurals [See p. 18 and p. 68 below – Eds.]. That is, it may be possible to argue that the morpheme indicating plurality does not have an "objective meaning" but is a salience-order indicator in a discourse-level structure. The plural is usually less salient than the singular. The covert structures indicating salience order are more fully described in Caldwell (2002).

The point of the second adjustment is to see that the semantic principle of the differential operates within small universes, not large ones. That is, a word means what it means by its differential not from all the other words in the language, but from *all the other words that could have been chosen in its place at any salient moment in any actual discourse*. Its meaning is formed in its contrast with the other possibilities in a tiny synthetic unit, which I call the Molecular Sememe.[7] Since the discourse itself selects those other possibilities, this differential can express the *local* meaning of the *local* discourse, and contains all the nuance and fineness of distinction that language is capable of expressing at its most concrete levels. Thus, I propose a kind of micro-structuralism that accounts fully for the local meaning of the utterance, even when it involves irony, humor, wit, or any of the subtleties we know discourse is capable of.

The principle of local differentiation also underlies the syntax. The syntax of English, as Hopper and Thompson argue, is not a single coherent system. Its systematicity is weak, better described as a kind of conventionalization rather than something ordered by logical necessity. But there is system to be found at the level of individual discourse, where the contrast is *emic* rather than *etic*. Since all the possibilities within a single set are necessarily of the same grammatical value, whatever that is, we can say that the grammatical value as well as the semantic meaning belong to the sememe itself, *as marked by* the word chosen to represent it.

This structure emerges as soon as we recognize that the ordering principle is not a small, atomistic unit, but rather the salience structure of discourse itself. Ordering at the discourse level is top-down rather than bottom-up. Discourse salience – and its coercive power over semantic possibility – is an expression of the ability of our sensory faculties to organize data as *gestalt* perceptions rather than as analytic categories. Its emphasis on the differential – that is, the *emic* rather than the *etic* – makes use of the mind's ability to spot similarities and differences among complex entities, to register fine distinctions among similar things, and to discover similarities among dissimilar things. It registers human cognitive needs like aim, purpose, emphasis and intention, not just grammatical relation.

In short, both semantic and syntactic structures are to be found, exactly as the value of a phoneme was found, in its contrast to all the other entities with which it is compared. When we consider the whole language as a single system, it cannot be done. But in the case of a single discourse, the differential has far more clarity, and its power to organize both semantic meaning and grammatical value is clear.

Discourse is a highly coercive organization of meaning, governing both semantic and syntactic structures within it. Semantic structure is not consistent among varieties of discourses, but it is coherent within a single discourse. This fact, I argue, allows the construction of a purely synthetic, non-computational, emic model of ordinary language. Though the model I propose is a discourse-level structure rather than a Language-level structure, it should fulfill the expectations of Ferdinand de Saussure for a single account of the syntactic and semantic planes of ordinary language.

[7] The dynamics of the Molecular Sememe are detailed elsewhere. See Caldwell (1989), (2000) and (2004). [Reprinted here in their final form as Chapters 2, 6 and 3 respectively – Eds.]

Chapter 2
Molecular Sememics: Toward A Model of an Ordinary Language

Some years ago, I attended graduation exercises at a small American university. During the course of the ceremonies, the university Registrar said, "This is undoubtedly the largest class we have ever graduated". I began to wonder what the word "undoubtedly" meant in this instance.

I thought that if he had said, simply, "This is the largest class we have ever graduated" I would have taken it as a statement of documentary fact, coming from the authority charged with assembling such documentary information. Since he didn't say that, I suspected that he didn't know for sure – had forgotten to look at the actual numbers – and was guessing. But since he also did not say, "This is probably (or most likely) the largest class we have ever graduated", I concluded that he wanted to pretend he was not guessing. To put it briefly, his use of the word "undoubtedly" created in me a good deal of doubt as to whether he knew this was indeed the largest class the university had ever graduated.

But while his statement put itself in doubt, it also suggested a rich complex of meaning. There was a range of nuance which went further than his own communicative intent. The meaning that I came to understand, whether correct or not, was antithetical to the dictionary definition of the word:

> un-doubt-ed (un dou'tid), adj. not doubted or disputed;
> accepted as beyond doubt. [ME]—un-doubt'ed-ly, adv.

It was a meaning which involved, in a negative way, the meanings of the other terms which could have been used in its place. Whether consciously or not, the Registrar had considered and rejected those words, and therefore the meaning of the word he did choose meant what it meant by contrast to the other terms in that little momentary 'molecule' of possibility. It occurred to me that this tiny and short-lived but dynamic set of choices, within which a specific and highly concrete and subtly nuanced meaning had been born, might itself be the 'sememe', the fundamental unit of linguistic meaning, and the ordering principle on which a semantic theory could be based.

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The basic notion underlying this 'molecule' is, of course, not at all new. It is a revision of the notion of the 'contrastive set' or the 'paradigmatic series'. Early on, many linguists in the Structuralist tradition recognized that the dynamic part/whole logic which operates within such series was fundamental to the functioning of speech. Unfortunately, they were never able to make contrastive sets fit in with any of the structures of syntax, suggest any consistent structures of their own, or even to yield up their common features. In frustration, the effort was abandoned.

But the importance of such sets, or rather of the dynamic of differential meaning to the workings of language cannot be ignored. I have come to believe that the failure to make use of contrastive sets stems from a fundamentally flawed assumption underlying the study of linguistics, the assumption that Language precedes Speech, or (to put it another way) that Competence precedes Performance. The contrastive set, it occurred to me, must be the result of the process of conventionalization, the refereeing and compromising process individual utterances go through on their way to being adopted by the speech community. New meaning is only created within the momentary molecules of original speech.

Contrastive sets, on the other hand, are collocations of repeated molecules whose differential meanings have been compromised and hardened into conventionalities. It is not surprising, in this view, that they did not generate the familiar categories and structures of language, for they are merely the products of those structures. I propose, therefore, to posit the notion of the molecular sememe, which is a version of the familiar contrastive set revised to the dynamic form it must have taken in Speech. This will require re-examining the assumptions of all structures which are incompatible with it to see whether they can be derived from it. Finally, I must show how a semantic theory can be constructed from it, as well as a possible grammar of an ordinary language such as English. I am submitting here a highly abbreviated outline of the shape the research is taking, and an interim report on some of the implications so far suggested for some of the major problems in semantics.

2.1 The Redefinition of the Linguistic Sign

"Molecular Sememics" is a term meant to refer collectively to the implications deriving from the revised notion of the contrastive set, the resulting re-definition of the linguistic sign, and the re-evaluations of linguistic methods and structures required by it. The fundamental unit of meaning, in this view, is not a single linguistic item such as a word, a morpheme, or a phoneme, but rather a synthetic structure, the small 'molecule' of possible counters from which one is chosen at any decision-point in the creation of an utterance.

I call this molecule the "sememe" because it is the unit of meaning. For the moment let me avoid trying to narrow the definition of "meaning". It will be obvious that I do not mean, simply, "reference", nor do I mean to define it in terms of truth-conditions. The sememe is fundamental to *all* meaning, and so I shall begin with an inclusive sense of it, including reference, syntactic value, logical implication,

illocutionary force, and/or emotional import. As it is created in individual speech, it comes into being before conventionalization turns it into either a lexeme or a taxeme.

And I describe the sememe as "molecular" in order to suggest a contrast with the 'atomic' imagery of the popular paradigm, with its feature analysis and other forms of dependence on the analysis of small constituents. For the sememe is a synthetic unit, a minimally complex unit containing parts which participate in meaning but are incomplete in themselves. Such a unit is posited as a logical vehicle for describing the indisputably synthetic and organic operations of the brain which must underlie both perception and speech. Its relation to the familiar term in Chemistry is only analogical; it might just as well be called a "cell", and more obviously evoke the Darwinian paradigm to which it is kin. Perhaps there is something fundamental to intelligence, just as there is in tide-pools according to our Darwinian model, that each organism should seek its own ecological niche by differentiating itself from its fellows. Could it be that neurological phenomena, or meanings, or sememes, do that too?

Everyone has noticed how, on a clean surface, water will bead up in coherent droplets. A few specks of dust or debris, when dropped onto the surface, will instantly move as far away from each other as possible. Whether because of like electrical charges or because of the dynamics of surface tension, the bits of dust will maximize the distances among themselves. So, too, signs and meanings, whenever they are brought into a local relationship, maximize their distances from each other. This phenomenon must be fundamental, underlying the power of contrastive sets and the markedness phenomenon, and giving meaning to the differential that has always been so important to structuralist linguistics since Saussure.

If this is the case, why did Structuralism fail to make the principle of the differential generate all the structures of language? I will try to answer this more fully in the history discussion which follows, but the short answer is that they believed too strongly in the notion of *la langue* as in itself the principle of order. Thus, all phonemes were said to have meaning in their difference from all other phonemes; by implication, it was hoped that morphemes too would prove to have meaning by their difference from all other morphemes. Saussure failed to prove his idea of order because he looked for it on the wrong scale. This of course is to be expected; we all believe that the fundamental principles, whatever they are, must be universal and large. Molecular Sememics, however, argues for the principle of a local order operating on a small scale.

The Molecular Sememe, then, claims to be a (perhaps neurological) principle of order NOT within the large categories of language, but within the momentary dynamics of speech. I hope it will be possible later to demonstrate how contrastive sets and 'grammatical categories' arise as a result of a process of the conventionalization of successful molecules in repeated use. But prior to that process of conventionalization, we must hypothesize that speech is governed by a molecular order, not a categorical order.

The molecule, then, is to be distinguished from a category, and it is not a categorical phenomenon. Rather, it is a small whole, a universe, an order possessing both a differential and a coherence. Furthermore, it is a complex whole, in which highly

subtle nuances of difference are to be recognized, but only among a few (two to four or five) foregrounded choices at a time. Such a structure, I think, is consistent with Connectionist models, recently proposed, of neurological structure, and could also express the Gestaltish qualities which have been observed to pattern human perception. Thus, the molecule can be seen as an expression of the mind's need for an order which is both analytic and synthetic at the same time. If it can also be shown to be a basis on which an ordinary language could be described, it could allow us to make the so-far elusive connections between language and sense-perception, neurology, and psychology. This would bode well for learning theory and the psychology of meaning.

2.2 Re-evaluating the Structure of Language

Redefining the fundamental unit of meaning as a dynamic structure in speech, rather than a conventional structure in language, requires the re-examination of several very durable assumptions with which it is inconsistent. Indeed, it requires a break with both the formalist approaches associated with Generative grammars and some assumptions of the empirical tradition. As a paradigm, however, Molecular Sememics is in some respects a kind of micro-structuralism, faithful to most of the implications of Saussurian structuralism except that the idea of the 'structure' must be applied to the molecule rather than to language itself.

This "except that" is of course a large one. I do not mean to imply that language is not a structure of some kind. But Molecular Sememics is obviously incompatible with most (if not all) formalist approaches to language, as it sees no necessary logical coherence in language as a whole. Indeed, the Chomskian principle that Competence precedes Performance assumes a notion of language as in itself a coherent set of generative rules, while Molecular Sememics sees the principle of order contained in the molecule as prior to any large syntactic or semantic structures of language. It explains language, rather, as a compromised and conventionalized collocation of molecules and hierarchies of molecules. Some molecules may be fairly large – large enough to account for the apparent isomorphisms created in the well-formed discourses of competent native speakers. But from the point of view of individual speech, Language itself is really a collection of many languages, certainly not a single consistent, or consistently rule-ordered system.

The claim that the individual physical or acoustic sign is not in itself the sememe implies, as well, a radical criticism of a range of notions in the philosophy of language. The standard notions of reference and meaning, especially as they have come out of the quarrels between realists and nominalists, assume that reference and meaning are properties which belong to individual signs. On the other hand, Molecular Sememics may help explain more recent events, such as Derrida's efforts to deconstruct language. Molecular Sememics implies that a word is only a conventionalized and ambiguous token, meaningless until it is put into play. Like a candle-flame, a sign may appear simple and durable and nameable. One might take

a photograph of it, for instance, and record its existence; but the resulting token should not be taken for the real event, which involves a complex of momentary interactions.

Perhaps the most difficult implication of Molecular Sememics, though, is the one mentioned first. It suggests a radical criticism of the formalist and empiricist methods that have become orthodox in this century. This should become clear in the following capsule history. I regret that, due to the limitations of space, it must appear quite oversimplified and polemical.

2.3 History

2.3.1 Origins of the Arbitrariness Doctrine

The story of Western linguistics in this century begins in the semiology of Ferdinand de Saussure, whose lectures at the University of Geneva between 1906 and 1911 were reconstituted from student notes by Charles Bally and Albert Sechehaye and published in 1915 as the *Course in General Linguistics* (English translation by Wade Baskin). Two of his questions were central to this study: What kind of thing is an ordinary language? And how does it create or express meaning?

Of course, his formulations of these questions were dictated by his own place and time. He asked, "What is … the integral and concrete object of linguistics?" and "What is the nature of the sign?" These questions were necessary because Saussure needed to distinguish the study of linguistics as a science both from the normative grammars of the Eighteenth Century and the historical studies of philology and phonetics in the Nineteenth Century. He also needed to distinguish linguistics' special kind of science from the methods of psychology, anthropology, and phonics as practiced at that time.

The problem was that the study of language was muddled by too many approaches. Saussure hoped to isolate a special concept of language, separating the object of his study from both its fluid character as a historical phenomenon and from the unmanageable accidents and varieties of local speech. He wanted to study it as a synchronous phenomenon, a set of relationships existing simultaneously at a single moment.

> Taken as a whole, speech is many-sided and heterogeneous; straddling several areas simultaneously – physical, physiological, and psychological – it belongs both to the individual and to society; we cannot put it into any category of human facts, for we cannot discover its unity.
>
> Language, on the contrary, is a self-contained whole and principle of classification. As soon as we give language first place among the facts of speech, we introduce a natural order into a mess that lends itself to no other classification. (Saussure 1959, p. 9)

Saussure's definition of *la langue*, of language as the system which became visible when speech was viewed synchronically as an idealized social object, was indeed brilliant, especially in its contribution to methodology: one could avoid bogging

down in the morass of ever-changing meanings, sounds, and grammatical rules. One could instead think cleanly and abstractly about the internal relations among the various components of a system. Much later, Roland Barthes called the decision "a great novelty" by comparison to the methods of historical linguistics of the last century.

However – and this is a crucial point for Molecular Sememics – Saussure did not credit the idea of *la langue* with ontological integrity, or insist that the concept of such an idealized system was axiomatic, the way many of his successors have. I believe he recognized it as a makeshift concept, one with methodological use, a heuristic. He recognized that the 'system' was really no more than a set of 'habits', seen deliberately as an idealization for the sake of isolating the object of his study from the methods of the other sciences. Individual speech was still the real thing, though unfortunately he could see no principle of order in it.

Saussure's tactical redefinition of language, however, was consistent with two extremely powerful concepts that his studies of phonology had made possible: the idea of the arbitrariness of the sign, and the concept of the structure of relations among those signs as capable of creating meaning. Saussure believed that in language there are no positive terms, only differences, and that only the community could make a system out of this collection of arbitrary signs. "The community is necessary" he said, "if values that owe their existence solely to usage and general acceptance are to be set up; by himself the individual is incapable of fixing a single value" (Saussure 1959, p. 113).

2.3.2 Mitigations of the Arbitrariness Doctrine

The concept of language as a structure within which arbitrary signs come to have meaning, and on which no individual has any influence, is famous enough not to need elaboration here. It has fruitfully been applied to sociological, literary and political systems by researchers like Claude Levi-Strauss (1963), Roland Barthes (1967, 1974) and Michel Foucault (1972).

In linguistics, however, there has been a constant assault on the arbitrariness doctrine. Roman Jakobson insisted, for instance, that although the purely differential character of the phoneme was the "cardinal element on which everything in the linguistic system hinges", it was not to be found in any other part of the system, not even the morphology (Jakobson 1978, p. 66). Taking Saussure's example of the contrast between the German singular "Nacht" ("night") and its plural "Nachte", Jakobson granted the differential value – "it is true that the two members of this pair mutually presuppose each other" – but he would not accept Saussure's insistence that "taken in isolation neither "Nacht" nor "Nachte" are anything". For all speakers, Jakobson insisted, "Nachte" is an "independent and direct designation of a concrete plurality" (Jakobson 1978, p. 64).

Jakobson's argument eventually came to dominate the conversation, and by 1949 he had begun to undermine the arbitrariness of the phoneme itself. He argued that

Serbo-Croatian phonemes could be coded as combinations of the presence or absence (+ or −) of six distinctive articulatory features: vocality, nasality, saturation, gravity, continuousness and voicing (Jakobson 1949, p. 421). By 1955 he was convincingly arguing that phonological structures universally could be accounted for by some 12 inherent features and a few prosodic features. By subdividing the phoneme, Jakobson reduced the differential character of the phoneme to a bundle of binary oppositions (Jakobson and Halle 1971, p. 497*ff*). The phoneme became a mathematically simple set of oppositions, and Saussure's arbitrariness doctrine disappeared in favor of a computational taxonomy.

Thus, the concept of the arbitrariness of the sign, no matter how essential it was to the original idea of language as 'structure', gave way to a theory of distinctive features as an information-encoding structure which could be merged with purely mathematical notions of communication theory. The resulting notion, that the system of language could be described by logical and automatic rules, encouraged Chomsky's (1965) proposition that Saussure's idealized social object was in fact a set of competency rules unconsciously internalized by the native speaker. Later, Jakobson contributed further to the destruction of the arbitrariness doctrine at the level of the morphology through markedness theory, in which pairs of lexical items were seen to stand in a motivated, asymmetrical, binary oppositions to each other. Language began to be seen not as a structure of arbitrary relations, but as a 'code' in which binary oppositions at the bottom level generated meanings through a series of generative rules. Since computers are very good at manipulating binary codes, general optimism could easily foresee the day when the generative rules would be exhaustively discovered for semantics as well as syntax, the code could be completely machine-managed, and Artificial Intelligence would help us all get our work done.

2.3.3 The Power of the Formalism

By the early 1970s the optimism generated by Transformational-Generative Grammar had begun to erode. While Chomsky's initial applications of the formalism to the regularities of syntax were highly convincing, subsequent applications to semantic structure were far less successful. However, the concept of language as a code describable by a set of generative rules is still alive among many who still expect a viable Semantic Theory, when one is discovered, to conform to the Generative model.

Just as Jakobson found universal features underlying the phonological system, we must eventually find lexical entries to be describable in terms of "semantic features". Surely, many feel, with the addition of the right combination of 'field properties', 'contextual constraints' and 'felicity conditions', the system can eventually be tinkered with until it works.

This program has met with considerable difficulty, however. More recently, and for good tactical reasons, Chomsky has seemed to want to neutralize the difficulties

of semantic theory by shifting the issue away from any questions of the relationship between language and the world, or of reference and truth-value. Rather, he now speaks of I-language, a purely internal (as opposed to E-language, or external language as he now describes the Saussurian notion) "system of knowledge of language attained and internally represented in the mind/brain" (Chomsky 1986, p. 24). In this view, semantics is not a wholly separate set of problems, but in much of its substance, merely an aspect of syntax:

> One can speak of "reference" or "coreference" with some intelligibility if one postulates a domain of mental objects associated with formal entities of language by a relation with many of the properties of reference, but all of this is internal to the theory of mental representation; it is a form of syntax. (Chomsky 1986, p. 45)

Some, on the other hand, have argued that the formalist program has proved a failure and should be abandoned. Empiricists such as Talmy Givon (1979) accused T-G grammarians of mistaking the formalism for explanation and of gutting the data base to include only rule-generated sentences. The result, he said, was essentially a tautological argument. Such charges, on top of the generally recognized failure of Generative Semantics, have pushed many linguists to entertain more functional and pragmatic considerations: Speech Act analysis based on the philosophical work of J. L. Austin and Searle; Context Analysis by John Lyons; Pragmatics by Levinson and Leech, and Functional Grammar by M. A. K. Halliday.

The formalism continues to have tremendous authority, though, and many have been trying to formalize pragmatic and functional principles. Semantics is still studied mainly as an issue of truth-value rather than use. Austin's discovery of 'speech acts', performative rather than constative sentences, is a formalization of what has been recognized as a rhetorical distinction since before Aristotle. While recognizing the importance of context in the ascertaining of meaning, Lyons is intent on finding formal ways of dealing with it. Levinson and Leech have likewise felt obliged to formalize pragmatic principles. Such is the power of the formalist program.

On the face of it, formalism derives its great influence from the notion that it is the method of the hard sciences, and that it can express itself in the one language that is more universal than English – that is, formal logic. From this point of view, the problem of language is the problem of describing the set of logical rules which comprises the competence of any human being to speak her mother tongue. This set of rules is also presumed to be a sub-set of the rules of Universal Grammar, the innate rules which underlie the ability of any human child to learn to speak whatever language her parents speak. Thus, the object of study is not language itself, but the "knowledge of language" (Chomsky 1986), an abstract and highly generalized set of logical operations that all human beings are presumed to have inherited because they are human.

But despite the seemingly self-evident truisms formalists have articulated concerning the criteria semantic theories must meet, it has become apparent that formal semantics does not mean to address ordinary-language issues, that is, issues for which it matters whether we are talking about, say, English or Japanese. For Jerrold Katz, for instance, the problem of meaning has to do with explaining things like

synonymy and antonymy, ambiguity and redundancy, presupposition and entailment, in abstract logical ways which have nothing to do with which 'natural language' these meanings are expressed in. Thoughts are assumed to be independent of language, and the issue of meaning in speech, that is, meaning which does depend on the immediate utterance being spoken, is ruled out of consideration from the beginning as belonging merely to the realm of pragmatics.

While Molecular Sememics is a theory of speech pragmatics, it rejects the "merely" that usually accompanies that label. In neglecting the vagaries of meaning, the formalism forgets to look for what is essential in language – its ability to construct worlds of discourse rich in subtlety and nuance – in favor of what seems to me a lesser thing, a scheme for describing the relationships of syntax. I think, furthermore, that it is an effort doomed to failure, finally, because it is committed to a consistent description of what is merely conventional, and therefore, by and large, only *mostly* consistent, and then consistent (in overt form at least) in mainly pragmatic and uninteresting ways.

Of course it is not necessary to repudiate the formalism in order to pursue speech pragmatics. Although the molecular sememe suggests an order which is very unlike that of formal logic, I do not intend that my description of it should be illogical. In any case, even among formalists, there are substantial arguments that the mind needs no formal logic in order to reason, that there are heuristic strategies and modelling techniques which can accomplish, within the human mind, what computers require an explicit set of instructions to accomplish. In short, ordinary language itself, as Molecular Sememics describes it, can generate the operators which give rise to formal logic. Thus formal logic is, I believe, a derivative of, not a constituent of, ordinary language.

If Molecular Sememics seems radical, then, it is because it seems to repudiate the foundations upon which science itself seems necessarily to depend. But that is not the case. Molecular Sememics means merely to find the privileged fundamentals, the primes, in the realm of speech rather than in language. This entails, however, a repudiation of competence as prior to performance, which, in the terminology of Cognitive Science, might well seem to be a denial of general truth in favor of the anomalies and accidents of anecdotal evidence. It is not that, though it might seem so. It is, rather, a vote in favor of a local and immediate ordering principle rather than a universal set of rules which mean to govern from on high. It in effect pretends that the person in charge of language is the local schoolteacher or the teenager with the most influential fashion sense, rather than either Universal Grammar or the National Academy. She, not a set of abstract and universal rules, creates the language. Of course she must persuade the local community to speak as she speaks, and her influence may seem limited to small and inconsequential changes in the uses of popular words. But the crucial point is that while she must persuade them to alter the conventions they have known since birth, they will do it willingly and meaningfully: creativity *is* possible and intellectual growth is (usually) welcomed. The conventions are not unbreakable universal contracts, and they do not necessarily follow from some genetic necessity, some natural law.

In arguing that speech precedes language I am not, however, repudiating any notion of a universal grammar. I am only arguing against the notion that a full set of syntactic rules is required for that grammar. The structure of the molecular sememe itself requires an underlying neurological capability which, though I think it is consistent with what is known about neurological structure, remains to be demonstrated in those terms. But it does not dictate any particular set of rules governing the use or application of those molecules. The experience of the speaker in the world and in the company of other speakers is sufficient, given the neurological capability of forming molecular sememes, for any child to learn any language if it is presented to him. For if Molecular Sememics has any validity for English, it is also valid for any other ordinary language. In this sense it is a semiotic theory, and it might well prove to work for bird-song and dog-bark, or for music and art, as well as for the chatter and the poetry of human beings. The Molecular Sememe is a synthetic unit in the order of Signs, in a generic sense, and not just a function of the lexicon of English.

What will seem most radical about this proposal is its implication that the Universal Grammar may be a (relatively) simple biological or synaptical organization for speech, not a complex set of logical commands in a computable program. Whether the molecular sememe ever in fact proves to be computable or not remains to be seen; I know of no principle that would prevent it, but it would require a logic very different from those in use today. For the molecular sememe must make use of part/whole logic, rather than item/category logic. Whether algorithms exist that can implement that or not remains to be seen. Suffice it to say, in the descriptions that follow, since our object is rhetorical truth, not logic; speech not language; and performance, not competence, we will eschew the language of the formalism.

The most radical implications of Molecular Sememics, then, are owing to its notion that meaning is created in immediate and local speech rather than in the systematics of Language, in a momentary dynamic involving the immediate juxtaposition of a term with its molecular 'Others'. This does not deny the influence of the speech community in having conventionalized (or 'assigned') the meanings of those terms, but it does argue that meaning does not originate there, and that 'meanings' are not, therefore, the 'properties' of words. In this perception, then, the failure of current linguistics to provide a believable theory of meaning is seen to be related to the assumptions of formal approaches which have, I think, made us look for the answers in the wrong places. Thus, Molecular Sememics proposes a paradigm which is not based on the 'lowest common denominator' procedure of analytic science, and does not assume an atomistic notion of constituency. It rejects not only the terminology of atomism – the "features", "figurae", "phones" and "bits", but also the logical paraphernalia of the formalism, the "properties", "categories", "rules", "constraints", and "criteria" which impose their unrhetorical characteristics on the object of study.

To many, of course, saying this is tantamount to refusing to abide by the scientific method. I mean no such thing. I simply find it difficult to accept formal logic as the value-neutral medium it is intended to be: for as long as English words provide

the content of any proposition, that proposition is as value-laden as any statement within ordinary language. Furthermore, the inclusion of semantic items from ordinary language within propositional logic merely provides the qualitative content which is the sine qua non of any proposition which hopes to say anything real about the world; and so it is in fact welcomed, even though its status is denied.

What formal logic does, on the other hand, is take qualitative content and try to strip it of whatever indeterminacy of implication it might have had. This is considered a necessary and useful thing, without which formal statements would be as ambiguous and useless as ordinary statements. But its real effect is to impose an ideology on the object of study, one which forces it to pretend that its structures are in fact as qualitatively empty as scientific description demands. Thus the category 'Direct Object', say, would indeed describe an abstract commonality shared by all 'direct objects'. That is to say, all the underlined items in this list would share some specific syntactical meaning:

Jennie told her parents she was going to Anne's house.
She said, "I won't be late".
Jennie shared her thoughts with Anne frequently.
She hoped Anne would understand.
But Anne often pled ignorance of Jennie's meaning.

In fact, direct objects have little or nothing in common except that they are usually noun phrases and that they follow verbs. And often noun phrases which follow verbs are *not* called direct objects:

Anne issued Jennie an ultimatum.
"Go home", she said, "or else".
You are driving me bananas.

This is not the place to conduct an exhaustive critique of grammatical categories. For the moment I only wish to provoke the reader into entertaining an alternative to the whole analytic procedure, and look at a synthetic unit instead, one which might put the whole paraphernalia of categories and items and rules and propositions into a different light.

In revising the paradigm, Molecular Sememics hopes to provide a description of an ordinary language which will not only be useful to linguistics, but will also suggest how logic, poetry, science, and literary criticism can utilize, to their diverse ends, the structures of language. It wants to ask not the question of formal semantics – "How can we be sure we know what a sentence means?" – but another, more natural one: What kind of a thing must a human language be, if on one level it can provide a ready-made network of conventions rich enough to make any native speaker think he can think, and at the same time provide the flexible, yet precise instrument with which poets and philosophers and scientists continually change our conceptual world?

2.4 Molecular Sememics and European Structuralism

While the American formalist program has replaced the arbitrariness doctrine with the notion of a code grounded in ontology, Molecular Sememics means to restore a revised sense of Saussure's arbitrariness doctrine. In this sense, Molecular Sememics is reactionary rather than radical. But in being so, it also hopes to offer a revised idea of the structure of speech.

The idea of the arbitrariness of the linguistic sign has been taken in many senses. One meaning, central to both Saussure and Hjelmslev, was simply that the differential character of the phoneme did not depend on its phonic substance (Saussure 1959; Hjelmslev 1961, p. 50). Molecular Sememics argues that this is still true. Jakobson's brilliant reduction of all the world's phonic substances to a handful of acoustic features is taxonomically useful to phonetics, but irrelevant both to phonemics and to morphology. It does not provide a non-arbitrary physical or ontological grounding for linguistic meaning, despite Jakobson's claim of a fundamental similarity between distinctive features and the elementary particles of physics (Jakobson 1949, p. 425).

Molecular Sememics, then, maintains the core meaning of the arbitrariness doctrine, which is that meaning is derived from the differential character of the linguistic sign, not from anything inherent in the phonic material of the sign or from any logic prior to language. It denies the existence of any a priori inventory of logically possible meanings from which items can be plucked for 'lexical entry'. But Molecular Sememics does not claim that language springs accidentally from nothing. The molecular sememe itself is an adaptive structure, whose shape reflects and therefore expresses all of the psychological, sociological, and historical factors which affect speech.

This is perhaps the most important claim of Molecular Sememics. The shape of the molecule itself, as defined by the relationships obtaining among the counters belonging to the molecule, is not arbitrary, but motivated. This is not a unique claim, since many linguists have claimed such motivation for 'markedness' patterns, and the molecular sememe may well be thought of as a markedness phenomenon. The difference is that markedness patterns are seen as a manifestation of binary logic in semantics. The molecular sememe is a direct manifestation of, and index to, the world's order as it exists in the unconscious experience of the speaker. However complex and diverse are the psychological, sociological, and historical factors which affect any utterance, they are expressed in the relationships which obtain among the counters of the molecule. Thus the molecule is the "principle of order" for speech that Saussure despaired of finding.

A simple example can be given here. If a baseball announcer narrates a baserunner's stealing second base, he will use the term "safe". A native listener knows that the word "safe" means what it means by contrast to "out" (and not, say, "unsafe"). That is, in this case a simple binary molecule exists – [safe/out] – to express the relationship between these two technical terms. On the other hand, if the narrator describes the batter's efforts, he will appeal to a more complex molecule [strike/

ball/foul ball]. Again, each of these terms means what it means by virtue of its membership in the molecule *and* by its differential from the other counters. But the semantic relationships among the counters of the molecule directly reflect the rules of baseball, in which three "strikes" are required for an "out", four "balls" are required for a "walk", and "foul balls" are counted as "strikes" the first two times but not thereafter. Thus, the shape of the molecule itself reflects the semantic structure of the world of baseball, or of whatever 'world' the molecule belongs to.

This example may also be used to illustrate the relationship between speech and language, and to suggest how language change may occur over time. As for the chicken-and-egg question of whether language or speech comes first, Molecular Sememics argues that while the counters which enter into molecular dynamics are lexical items which are already available in language, and that they bring their histories with them to the encounter, it is the use to which they are put, their interaction with the other counters of the molecule, which gives them their local and immediate meaning. It is this meaning, if it is repeatedly elicited in other molecular encounters, which will become conventionalized and seem to 'belong', henceforward, to the word.

Thus, in the evolution of the language of baseball there must have been a point at which "out" (which is normally contrasted with "in") and "safe" (which is normally contrasted with "dangerous" or "in jeopardy") were selected as most appropriate for special use in contrast to each other. This probably occurred spontaneously and only partly consciously in the speech of some early participant in actual play. Finding a niche within the internalized conventions of other native speakers of baseball language, the distinction proved durable. Molecular Sememics contends that all 'lexical contents' have come about in exactly this way, and that language change over time is the story of the successive participation of lexical tokens in various molecules, a few of which prove useful enough to bear repetition, and then become conventionalized.

2.5 The Conventionalizing Process

If, as I believe, the concept of the molecular sememe does provide a principle of order for individual speech, it should no longer be necessary to labor under the assumption that Language is a single consistent structure. We can then interpret its many apparent anomalies as natural, rather than exceptional. The premises of Molecular Sememics suggest that language is some kind of 'makeshifty' but efficient collocation of individual utterances, rather than a logically consistent ontological structure, the 'innate fixed nucleus' of which was given, according to Chomsky, to the human unconscious by a mysterious genetic event.

In short, meaning originates in speech, which is prior to language. But if this is true, then the process through which molecular meanings pass on the way to creating the phonological, morphological, and syntactic levels of language structure must be describable as a process of conventionalization. Even the 'phonological

system', of all systems apparently the most systematic, must be shown to be no more than a compromised and conventionalized collocation of a great plurality of local phonemic distinctions.

And this is not easily done. For all arguments about the origins of language, the hard evidence disappeared centuries ago. On the other hand, it's quite likely that the processes which created language in the first place are the same processes which create it now, whenever poets or philosophers or propagandists set out to explore new rhetorical terrain. Let's consider what happens when any new geographical territory is colonized, explored, and conventionalized:

1. The intrepid explorer sets out to find a route from Settlement A to, say, point B on a distant river. His first trip is highly exploratory, and covers a lot of ground very inefficiently. At rivers he tracks up and down looking for an easy crossing; at mountains he goes around rather than over. Withal, there's a fair amount of sightseeing.
2. When a number of trips by a number of people have been made, however, a consensus emerges concerning the best way, and this way is marked by a path. This is the first stage of conventionalization, which is a highly efficient operation. But it means that less off-path ground is explored, and henceforward the territory will be less well known than before, at least until enough settlers arrive to occupy the empty spaces.
3. Meanwhile, other explorers are making paths between points C, D, E, and F. Inns are built at crossings, and sometimes travelers in one direction share the path of travelers in a slightly different direction. Through such cooperation, the number of paths stops growing and begins to shrink.
4. At some point some engineers from C and D build a bridge over the river and engineers from E and F cut a tunnel through the mountain. Many paths are abandoned as travelers go a short distance out of their way to take advantage of the new facilities.
5. Eventually a highway is built from City A to point B. But it does not follow the original path. It deviates to take advantage of the bridge and the tunnel. Though it is a bit longer than the original path, the time saved with higher speed more than makes up for the loss.
6. Now, if you want to take a trip from any point to any other, you can look at a road map. It represents the highly conventionalized and compromised version of what was once a great many individual tracks.

As this analogy suggests, the process of conventionalization in language begins in the individual locution. If it is an efficient one, repetition will mark it as a path for communication. Later, though, the necessity for compromise with other people using the same means for other kinds of messages creates less efficiency, more overlapping and redundancy. It is at least possible to imagine that the same thing happens at both the phonological level and the semantic levels of language development. For some excellent suggestions about the kinds of inefficiencies which result from the conventionalization process at the rhetorical level, see Brown and Levinson, *Politeness: Some Universals in Language Usage* (1987).

The premise of Molecular Sememics is that meaning originates in the individual utterance, and then is conventionalized. An application of this premise to the study of phonology suggests that a radically different attitude might be taken toward the concept of the phoneme. The familiar Jakobsonian concept – that the phonology is a single consistent system within which every phoneme contrasts with every other – lends itself handily not only to the 'distinctive feature' logic of the formalism (how else can we reduce everything to a few definable primes?), but also to the notion of the minimal pair, empiricism's favorite method for isolating 'smallest meaningful units'. Within such methodologies, of course, the discovery of synthetic units is unlikely.

But if Speech, not Language, is the phenomenon under scrutiny, then "emic" logic suggests that only the sounds immediately available for use at any decision-point in an utterance participate in the meaning of the utterance. For example, whether one says "I want my mom" or "I want my dad" depends on the local and immediate emic distinction, valid for this utterance only, between /mam/ and /daed/. Whether this distinction is valid for other utterances, and whether it is constituted of one phoneme or more than one, are of no importance to this immediate use. But if in the accumulation of repeated similar distinctions there comes to be a perceivable regularity in the pronunciations of, say, /m/ and /b/, or /n/ and /d/, or /a/ and /ae/, it will be the kind of regularizing (or path-making) which maximizes perceivable differentiation while minimizing the consumption of scarce phonic materials. Habituating an economical distribution of scarce phonic resources is probably the most useful effect of the process of conventionalization.

And indeed it is necessary, because in the molecular logic of speech, minimal contrasts are rare. By and large, speech requires the clarity of maximal contrasts, on both the phonological and semantic levels. But since (within molecular logic) phonemes rarely need to differentiate themselves from 40 or more other phonemes – typically, from only one to three or four others – there is normally room for all kinds of slurring and blurring of pronunciation without the loss of contrastive clarity.

Even when a pronunciation must distinguish itself from many others, the phonology can normally provide an ample number of maximally-contrasting counters. For instance, even in a very large and loose contrastive set –

Denver Tower, Cessna 22 Tango, [__/__] miles east, inbound for landing…

– one in which, say, any number from ten to a hundred could occur, clear contrasts are available in nearly all cases. When they aren't available, trouble results. For instance, the differentiation (mostly stress) between "fifteen" and "fifty" is inadequate in the speech of many foreign pilots. It creates a special problem for air traffic controllers.

This should illustrate the fact that the distribution of scarce phonic resources is not really economical in the way it should be if Language were a single consistent structure, and if phonemes had to maintain contrast with all other phonemes all the time. Luckily, it is not a single structure, and phonemes normally have to maintain contrast with only a few others in any single instance. Thus, the language can normally afford redundancies and overlapping such as those obvious at the

'morpho-phonemic' level, where the inflexional suffix [-s] has three different meanings for different morphological environments, and three different pronunciations for different phonological environments. Because these environments are 'molecular' and limited to only a few possibilities, there is normally no confusion of meaning.

Thus the distribution of a single marker to different uses or of different markers to the same use is, as we have seen, exactly the kind of redundancy and overlapping that we would expect the conventionalizing process to create, and the molecular structure of speech to permit. Synonymy and homonymity represent the same kinds of redundancy and overlap at the semantic level. Thus, the notion of a conventionalizing process is at least superficially consistent with some of the apparent inefficiencies of language.

2.6 Toward a Grammar of an Ordinary Language

Within Transformational-Generative Grammar, syntax is considered to be the fundamental structure, prior even to semantic meaning. Molecular Sememics argues, on the other hand, that this priority reflects only the formalist bias within Generative Grammar. Syntax, to the extent that it is expressed in word order in English and is therefore temporally ordered (spatially ordered in written texts), is merely the most easily formalized aspect of speech.

In the determination of meaning, in Molecular Sememics' rhetorical view, syntax is neither the most important structure nor the most interesting. It provides only the 'chassis' of a sentence, a convenient framework on which to hang the operating mechanisms. For example, it has been often observed that many sentences, though well-formed by syntactic criteria –

> Many of the world's largest banks have their headquarters.

– require the addition of (what traditional rules would call) "optional" parts (in this case an adverbial modifier) to become rhetorically complete:

> Many of the world's largest banks have their headquarters in Tokyo.

This suggests that a sentence's structural integrity is not always best expressed in the Base Rules. "Tokyo" here is the molecular term, and clearly the sentence is not complete without it.

Molecular Sememics assumes the primacy of rhetorical intention in the structure of speech. In this view the primary unit is not a syntactic one such as a sentence or clause, but rather a rhetorical unit similar to those found in other speech-based or functional grammars. M.A.K. Halliday, for instance, calls the primary unit an "information unit" and defines it as consisting of an "obligatory New element plus an optional Given" (Halliday 1985, p. 274*ff*).

Halliday's information unit is the closest approximation I know of to the grammatical unit implied by Molecular Sememics. In Molecular Sememics, the

fundamental grammatical unit is a "molecule-selection-and-execution structure". What Halliday calls the "Given element" is that part of the utterance which, in Molecular Sememics' terms, orients, or sets up, or 'selects' the molecule. It usually consists of given information or information which appeals uncritically to the speaker's conceptual world. At the same time, it indexes the distributional conventions of the language to 'select' the terms available for use as counters in the molecule. What Halliday calls the "New element" is probably coterminous with what Molecular Sememics calls the "molecular" term. This term (though it may be a phrase or a larger unit) is molecular in the sense that it is the term which means what it means within the differential dynamics of the molecule. Thus the meaning of the utterance as a whole really depends on the meaning of this molecule as it is marked by the selected term.

Seeing discourse as a hierarchy of 'molecule-selection-and-execution structures' (MSES) suggests that a molecular syntax would have three levels of structure: first, structures which sort out the hierarchical relations among the MSES (coordination, subordination); second, structures which select and identify the molecular term(s) within the MSES (assertion, interrogation, negation); and third, structures within the molecule itself.

At the second and third levels, structures are determined by the various possible dynamics within the molecule itself. For instance, one molecule may operate to synthesize several diverse counters, and another may operate to distinguish several similar ones. One molecule may be selected as a whole by the mention of two unmarked counters, or implied in the assertion of a single marked counter. One utterance may 'query' a molecule, by in effect asking for an itemization of its contents; another may 'evaluate' a molecule, ranking its contents in a preferred or dispreferred order. An utterance can select one counter of a molecule and reject the rest, or it can deselect or negate one of its counters and choose the rest. We may find that in highly efficient texts, as in poetry, we will have to sort out several superimposed molecules operating on several planes of organization at once.

In short, molecular dynamics can be very rich. There is reason to believe that the various dynamics of the molecule can be shown to generate the familiar rhetorical forms, including interrogation, negation, assertion, naming, irony, metaphor, analogy, and perhaps even rhyme. At this point space permits only a few suggestive examples, with which I will conclude this paper. I hope they will hint at both the complexity and the richness to be found in the premises of the Molecular Sememics paradigm.

Examples

1. When you have read the question, mark the letter corresponding to the answer as given in your exam booklet: A, B, C, or D. (Interrogation and assertion)

A fully explicit, symmetrical molecule such as the molecule [A/B/C/D] interrogated here is indistinguishable from (and probably the origin of) a logical set. Purely logical counters are typically members of explicit, symmetrical molecules. The molecule [question/answer] is also fully explicit and symmetrical. This kind of molecule characterizes the language of technicality.

2. Q: Coffee, tea, or milk?
   A: Coffee, please.

The molecule [coffee/tea/milk] is an itemized and, probably, fully explicit molecule. If it is, it suggests the logic that once obtained in the universe of airline food, within which coffee, tea, and milk were the only alternatives. As should be apparent, the primary rhetoric of interrogation is to itemize the contents of the molecule. At the same time, the primary rhetoric of assertion is to name an item as selected in place of others. Hence, assertion is implicitly a denial of the unselected counters.

3. Q: Did you say 423-2345?
   A: No, I said 423-2355.

This molecule, which will be indicated by a tone change emphasizing the new "5" in the answer, is [--- --4- / --- --5-]. That is, it is implicit that the molecule is an order of telephone numbers. Thus, a molecule can overlap with or include a set of numbers. Of course, the 'dynamics' here are very logical, and do not possess the nuance that an organization of non-abstract terms possesses. It also should be obvious that in this case the other terms – that is, the other numbers – do not interact with the molecular counters.

4. I won't take "no" for an answer. (Negation)

[I won't take 'no'/(I will take 'yes')]: this molecule should illustrate that the typical molecular strategy of negation is to deselect the explicit term and therefore select the opposing term.

5. No, Mr. Smith is not the one I had in mind.

The molecule here is [Smith/whoever else *is* held in mind]. Since the molecule is binary, the deselection of Smith says a great deal about who is selected. If the hearer can be relied on to know the possibilities of the molecule, then negating one term effectively names (without naming) the other. Gossips and news leakers often use this method of saying without saying.

6. Either fish or cut bait. (Analogy)

This kind of explicit alternative proposition is really a kind of explicit negation, implying that if you reject one alternative you are stuck with the other. At first glance, [fish/cut bait] might seem, on an abstract level, reducible to a simple categorical set (YES/NO). But that analysis, in ignoring its 'poetry', would be inaccurate. The molecule really invokes a very rich universe of values (which we might call the language of fishery) within which a far more particular logic operates. Generalized and paraphrased, it means something like "either engage the main task or support those who are so engaged". But I only know that because of the analogical relations that are possible between molecules of similar shape.

7. Why don't you put a voltmeter on the starter solenoid and see if it's getting any juice? (Metaphor)

If we look at the 'molecule-selection' parts of the sentence, we find so much redundancy that the molecular term, we strongly presuppose, will be "electricity". In short, any sort of word that could be possibly taken as a token for the idea of electricity could have been put in this slot. Its value, then, is measured by its differential from the word "electricity". "Juice" is clearly more fun than "voltage" or "current" or "energy" would have been, and, because any term would be interpreted by analogy to electricity, there is no loss of precision. Even counters such as "tingle", "flow", "oxygen" or even "stuff", might be close enough to work.

8. He: Where have you been?
   She: I just went out to get a breath of air.
   He: You did, like hell.
   She: What do you want me to say, darling?
   He: Where have you been?
   She: Out to get a breath of air.
   He: That's a new name for it. You *are* a bitch.[1] (Naming)

An implication here is that any token can be made the name of anything if it is put in the position of a strongly expected term (here the reader has been strongly prepared to understand that the female speaker has been out having sex with the 'other man'). As in the previous example, the semantic value of "out to get a breath of air" is given in the differential between what those words ordinarily mean and what they mean now, which is, "in bed with Mr. Wilson". This differential adds up to the insouciance with which she (Margot Macomber) equates the one with the other, without any real effort to obscure the true referent. It is what provides the definition of the word "bitch" in the final act of naming.

9. Q: Would you like another drink?
   A: Does a goat stink?

A categorical molecule [YES/NO] might seem to be selected. But when it is executed with the answer "Does a goat stink?" then an extremely complex communicative event occurs. The parallelism of the second question to the first means that the answer to the second is also the answer to the first. The rhyme [drink/ stink] supports this parallelism by proposing an isomorphism where none existed before: a molecule is selected in which the *similarity* within a context of difference is proposed, rather than a difference within a context of similarity.

The immediate result of all this is that the answer to the second question (an emphatic "Yes") will be taken in the place of the merely categorical affirmative of the first molecule. A secondary result is that further parallelisms will be sought. If

[1] Dialogue from Hemingway's "The Short Happy Life of Francis Macomber". [Editors' Note: The exact edition of the text used by Caldwell is unknown. Here and elsewhere in the volume we have used page references from Hemingway 1987.]

so, they will be found in [you/goat] and [drink/stink]. Thus, the full implication is not simply the categorical /YES/ but the far more (humorously) emphatic and particular "I am a goat, of course I stink, and of course I want another drink". But this is a paraphrase, which doesn't really do justice to the wealth of implication contained in the complex focusing of rich molecules by a lucky question.

2.7 Conclusion: Further Implications

It should be clear that Molecular Sememics foresees far more avenues of investigation than it has had time to explore so far. I have already suggested some of its implications for semantic theory, philosophy of meaning, and the psychology of language and perception. It has not escaped my notice that there are also rich implications in the model for topics such as linguistic change (a single word may have successive membership in a variety of molecules) and language learning (molecular structures can subdivide and reform as needed to order a gradually-increasing vocabulary). There is a great deal to be done in all these areas, though, and I apologize that this brief report could do no more than touch on them.

Chapter 3
Whorf, Orwell, and Mentalese (The Molecular Sememe: Some Implications for Semantics)

Steven Pinker, in *The Language Instinct* (which I take to be a good representation of standard theory these days), goes after several of his pet peeves, one of which is linguistic relativism. He opens by ridiculing George Orwell and Benjamin Whorf, famous among those who claim that language structure affects the construed world and that as a result, cultures differ from each other in fundamental ways. For Pinker, this is nonsense. He believes that thinking occurs not in language but in 'mentalese', an abstract representation-manipulation which occurs in all human minds in the same way, whatever their cultural background.[1]

Pinker, like Jackendoff, figures 'mentalese' to be a kind of sub-verbal syntactical manipulation of underlying logical forms analogous to a computer's machine-code. Thinking goes on there, not in language, he argues; words are merely representations of the logical forms of propositions and concepts, and don't change them in any substantial way. But if words are only representations of concepts, then concepts must already exist beyond words; and of course they do in his view: he cites everyone's familiar experience of having a thought but not a word for it; or the ability of some people apparently to think in pictures or images rather than in words.

Pinker's attack on Whorf and Orwell could be seen as just another shot in a classic, long-standing philosophical war, whether universal logic or language govern 'thought'.[2] Pinker despises what he calls linguistic relativists because as a cognitive scientist he believes that logic, grammar, and meaning are genetically encoded and belong to all human beings equally. They function in a 'language module' which is not integrated with other functions of the brain.[3] Pinker represents the contemporary

[1] See Pinker (1994), pp. 55*ff*, the chapter on 'Mentalese'.

[2] See Pinker (1994), chapter 13. J. A. Fodor's *The Modularity of Mind* (1983) is a source of this idea.

[3] This philosophical conflict could be expressed in many ways. Whorf, along with Edward Sapir and Franz Boas, reflected ideas popular among European Structuralists and thought to be historically related to those of Humboldt in the nineteenth century and maybe even Roger Bacon in the thirteenth century: that language, thought, and culture are deeply interrelated, and that the semantic

T. P. Caldwell, *Discourse, Structure and Linguistic Choice*, Studies in Linguistics and Philosophy 101, https://doi.org/10.1007/978-3-319-75441-3_3

inheritors of the Platonic or Kantian tradition (sometimes called mentalism) who believe in the existence of an abstract realm of mental entities or forms or concepts which themselves can be apprehended and represented in human minds. He believes that for human thinking to occur, a human mind must possess only two things; the ability to 'represent' these concepts by some form of encoding, and a 'processor' which can manipulate the resulting representations. Reasoning, he would have us believe, is qualitatively the same as what is done by a Turing machine – that is, nothing more than a set of automatic syntactic procedures for manipulating representations. Add in some sensors for admitting the contours of the outside world and you have a "behaving organism", he says (Pinker 1994, p. 77*ff*). From that point, whether you then add hands and feet to make a human being, or a set of levers and wheels to make a robot, would seem to make little difference.

This theory, the "physical symbol system hypothesis" or the "computational" or "representational" theory of mind is, he says, as "fundamental to cognitive science as the cell doctrine is to biology and plate tectonics is to geology" (Pinker 1994, p. 78). It should come as no surprise, then, to hear that the work of understanding language, for Pinker and his ilk, is a matter of understanding merely what kinds of representors and processors the brain has.[4]

My position is on the side of the rhetoricians – that is, on the side of Orwell, Whorf, Sapir, Boaz, and all those accused by Pinker of being 'linguistic relativists', at least to the degree that they oppose the absolutism of the cognitive scientists.[5] I believe that while undoubtedly the human brain consists of genetically shaped electrochemical activities at some physical level, it is not a machine with an ability to directly apprehend, represent, and manipulate pre-existing logical entities. Rather, it is an organism which is capable of receiving data from the sense organs and of forming synthetic organizations of them.

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systems of various languages are fundamentally incommensurate with each other. In its "strong form", it implies that the nature of one's language governs the nature of one's thought. I take Orwell to represent a political application of that idea. Pinker, on the other hand, represents the currently dominant cognitive scientists, who see human cognition as genetically based and therefore universal to the species. John J. Gumperz and Stephen C. Levinson see this position as related to a classical argument by St. Augustine (fourth century) who argued that language only provides names for logical concepts which already exist. *Cf*. their *Rethinking Linguistic Relativity*, especially the Introduction.

[4] It seems to me that this position is extremely counter-intuitive, not to mention contradictory. Though he has earlier admitted that humans are good at what computers are poor at, and vice versa, he sees his own mind as computer-like. Though he presumably thinks of himself as an intelligent human being, he believes in a theory that does not admit the existence of human intelligence. But he does believe in a mental "representor" which can apprehend universally existing "concepts". This makes him, like Coleridge (whom he cites on page 70), seem more like a romantic transcendentalist.

[5] Actually it's worse. I am, I guess, a linguistic pluralist. That is, I believe that some experiences are genuinely incommensurate with others, and that discourses about them might be likewise incommensurate with each other. If things were otherwise, human beings would probably communicate with each other a lot better than they do (I'll explain more about this below).

To say this – that the mind is the kind of thing that can receive data from the sense organs and order them – is only to say something that probably everybody would intuitively agree with. It seems to me nothing controversial at all to say that my eyes can provide my brain with a plethora of sensations of line and color, and that my brain can synthesize those sensations into perceptions of people, things, and events. For example, I can select certain vibrations out of the general ambient noise and enjoy music even when the saxophone player and the guitarist are playing on a busy street corner.

To say that simple thing – that the mind can take sense data and form synthetic organizations of it – is radically unorthodox within today's dominant cognitive theory. But it must be true. I want to extend the idea in a very small way. I believe it can do the same thing with language data. I want to argue that such synthetic organizations can profitably be described as molecular sememes, and that a model of ordinary language can be based on them. There are many aspects of this model,[6] and many applications of them, but for now I will be content to show how this model can account for the subjective experiences that led Pinker to argue for 'mentalese', or 'thinking without words'.

Pinker is of course right about one thing: not all thinking is 'in words'. A plumber can think about how to repair the drain by imagining the pipe rather than the word "pipe". A composer of piano music can work by imagining the sounds, and his fingers on keys, rather than the words "C-major arpeggio". The reason, I think, is that words are not the only signs that language can manipulate. Language can order parts of the sensed world as signs, and use them in making linguistic meaning.

For instance, I can say, "How many red things do you see in your field of vision?" and you can make the red things come into focus and the other things recede into the background. If I then say, "Now look for the blue things" you can witness an instant change in your perceptual field, as the blue things come into focus and the red things recede into the background.

What have we done when we 'bring something into focus'? We have used the synthesizing power of our minds to bring order, purpose, and meaning to a portion of the multifarious discreta of sensory reception. This organizing power is reflected in the salience order of discourse.[7] We can call it a perception, a finite piece of the world ordered as our discourse requires. Within that discourse it is an entity, whether it has a name or not; and we can give it a name if we want to. I believe that it is essential to recognize that language has the ability to appropriate experiential entities and bring them into discourse as deictic elements. If it weren't that kind of thing, we could never clearly single out individual events from the ever-changing flux of visual data and talk about them.

[6] For a discussion of its application to literary meanings, see Caldwell, "Molecular Sememics: A Model for Literary Interpretation", *Meisei Review*, Vol. 15 (2000), 155–162. [Reprinted here in its final form as Chapter 6 – Eds.]

[7] For a fuller discussion, see Caldwell, "Topic-Comment Effects in English", *Meisei Review* Vol. 17 (2002), pp. 48–69.

Describing how language organizes experience is something linguists have long tried to do. Prague-school Structuralists such as Hjelmslev long ago called discourse a **syntagmatic** organization, to indicate that it is syntax that organizes it. They also spoke of **paradigmatic** organizations, observing that the choices of words that can come in any one grammatical position in any utterance all belong to the same paradigm. This insight has been neglected for a long time, but I want to make a new use of it.

For example, how do we know what the word "white" means? The dictionary will tell us it's the name of a color familiar to us all: the color of, say, a white sheet of paper. Or white sheets. But a white man? A white dog? A white lie?

My point is that we look for these meanings in discourse and in the world, not in the dictionary. Or, to put it another way, we understand that words don't just 'mean', they negotiate or marshal determinate complexes of experience in the real world. That is to say a white man is a man who is distinguishable from those of African or Asian descent in our experience; these alternatives are brought into a paradigmatic relationship so that we can contrast them. By the same token, a white lie is not one of the dirty or malicious lies in our experience; and a white dog is not a golden retriever or a black lab or any of a host of other dogs that we have met; and therefore, we don't expect a white man and a white lie and a white dog to be all of the same color. So 'thinking' is not just a matter of 'representing' a 'meaning' and manipulating it according to some syntactic rule, as Pinker would have it; it is a matter of surveying and contrasting all the possibilities within each paradigm, whether or not we have words available for all these alternatives.

But my argument differs from that of the Structuralists in an important respect. I argue that these 'paradigmatic' orders are not just orders which have their relations in the lexicon. They include more than words, and they are shaped by the dictates of discourse. Discourse consists of 'moves' analogous to the 'plays' or 'moves' in games. In chess, for instance, the 'meaning' of a move is the whole complex of implications for the opponent's next move. The possibilities for that move are dictated by the discourse as a whole – that is, by all the moves that have been made heretofore. The record of these moves can be seen in the lay of the board. This record stands in presupposition to the meaning of the next move, and provides the context within which it is interpreted.

At any point in the game, then, a player has to contemplate a perhaps unnamable order of possibilities for the next play. This order of possibilities is complex. I call it a "molecule" to indicate that complexity (it is not simple, not an 'atom'), and to indicate that it is a synthesis, expressed as a set of choices, of the history of the game to that point. All discourses are like this, I propose. Schematically, we can say that each move in a discourse is an MSES: that is, a "molecule-selection-and-execution structure".[8]

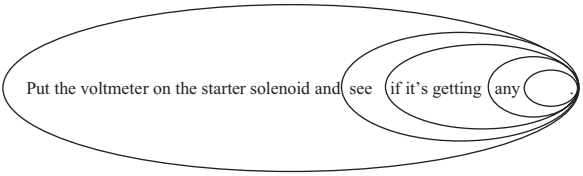
In verbal discourse too, every utterance already committed stands in presupposition to the next utterance that must be chosen. Every move in discourse, as in chess,

[8] For a fuller discussion, see Caldwell, "Molecular Sememics: A Progress Report", *Meisei Review* Vol. 4 (1989), pp. 65–86. [Reprinted here in its final form as Chapter 2 – Eds.]

is a progression toward a moment of focus, in which a set of possibilities is called into play, and then one of the alternatives is chosen.

Here is a simple example of an MSES. I represent the molecule as a blank circle because it is not a single word but a focused and structured complex of possibilities. All of the elements of the discourse which have scope over it first *select* the possible contents of this molecule. Then we commit an act of linguistic choice and we name it, or *execute* it.

Suppose we have a discourse about trying to fix a broken car. One part of that discourse runs like this:



The circles are meant to illustrate, broadly, a simple point about scope (I'm ignoring grammar here). The topic of a discourse is that which has scope over the rest of the discourse. In English, typically, every next element also has scope over the rest of it, and the most salient element – the most highly determined element – is that element over which every other element has scope. That means it is a highly ordered element, whether it is a word or a meaning or a bit of sense data. That means, to use other language, that we know what it is even if we have no word for it. We might as well call it an 'idea' or a 'concept' (Pinker would) and if you agree to that you must also agree that we now have a case of an idea without a word for it.

My next point is that once this 'idea' is in focus, it is easy to *name* it. In fact, we usually do it so swiftly and so unconsciously that we don't have time to notice what it is we are doing, or what considerations go into the task. Before we name it, though, let's make a few observations about it.

1. We know what it is even before we have a name for it. This is so because discourse is *coercive*, in the sense that all the elements of the discourse conspire to select what content can come at the point of focus. It is a true case of an entity that we can think of without a word for it.
2. It is not a category. It is a synthetic order which belongs to a unique position in a unique sentence in a unique discourse. We will not generalize about it, because we want to insist on its status as a creature of an individual discourse, not a creature of a conventionalized syntax.
3. As I have already said, it is not simple. It is not a feature or a phone or a logical counter. It's complex, not elemental. It's *molecular*, not atomistic.
4. The contents of this molecule might be perceptual, conceptual, sensory or logical. Sometimes the contents of molecules are words themselves; sometimes contents of experience. But whatever they are, they have been brought into focus by a *discourse*, and I'm going to have to give them a *name*. If the molecule typically dictated the name (sometimes it does), I could well claim that it is a *lexeme*. But

it doesn't always do that. Sometimes, as in this case, it merely presents a content to be named, and we might find a number of names that might work. So I'd rather not call it a lexeme.

5. If we do find that a number of names might work, we will also see that all of them have the same grammatical status in the sentence. Since that is the case, we might be tempted to call this unit a *taxeme*. But since the grammatical status is unique to an individual discourse rather than to a categorical rule or a syntactical convention, I'd rather not.
6. This unit, however, where the focus of the discourse is brought to bear, is the arena in which elements of the world and some word must come together. This is the arena in which meaning in language is created, and so I am going to call it the *sememe*. I believe it is the fundamental unit of meaning in language. So I call it the *Molecular Sememe*.

When it's time to read the voltmeter on the starter solenoid and give a name to what it indicates, we find ourselves doing it swiftly and unconsciously. Since we know the content already, naming is easy and not really even very important. Many words will do. "Electricity", "voltage", "power" … they are kind of dull, though. Many American mechanics would rather call it, say, "juice", and they would clearly understand that it means not fruit juice but juice in the sense of electricity.

Or we could also apply some other names – say, "moxie", "mojo", "zip", "goodies", or just plain "stuff". Each one gives it a different flavor: "energy" is accurate but not very much fun; "lightning" would probably work, but overstatements are not popular among men; "power" would be fine for someone who is not interested in joshing around. The point is that we are free to name it with some creativity, and we have the strong sense that we would know instantly which alternatives would be better or worse.[9] It's clear, for instance, that "orange juice" wouldn't work at all. "Juice" has a kind of understated casualness American men like.

So let's add one more bit of insight to the nature of this molecule: *the meaning belongs to the molecule as a whole, not just to the word supplied to name it*. Let us say it this way: *the meaning belongs to the molecule* ***as marked by*** *the name given it.* It is a temporary meaning; we won't expect "juice" to mean "electricity" the next time we use it. But it is the real 'meaning in context' for this particular discourse at this particular time.

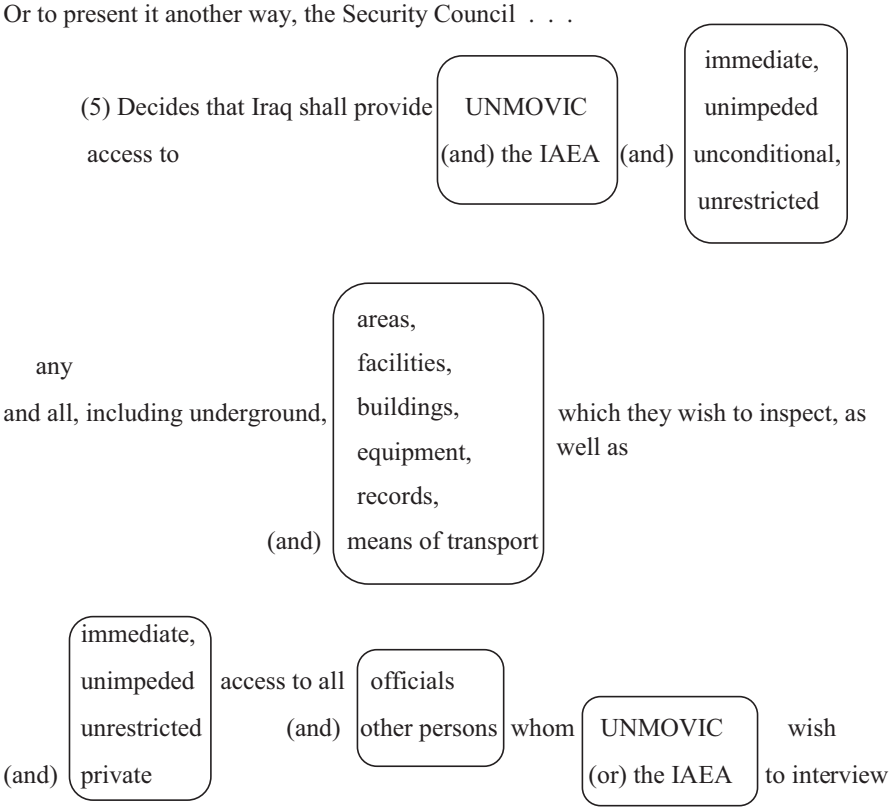
Other cases, of course, might be less mysterious. Often discourse focuses on meanings that are entirely conventional. And sometimes the contents of molecules are not at all subjective, but spelled out quite explicitly. Lawyers, for example, love to do that. Here is an example that is likely familiar, from the news of the war in Iraq. It's a piece of the famous United Nations resolution 1441, adopted on November 8, 2002:

The Security Council …

[9] This sense of knowing which words can be used appropriately testifies to the coercive power of discourse to define the molecule so precisely that fine nuances of meaning can be noticed, depending on what name or mark is given to it.

(5) Decides that Iraq shall provide UNMOVIC and the IAEA immediate, unimpeded, unconditional, and unrestricted access to any and all, including underground, areas, facilities, buildings, equipment, records, and means of transport which they wish to inspect, as well as immediate, unimpeded, unrestricted, and private access to all officials and other persons whom UNMOVIC or the IAEA wish to interview in the mode or location of UNMOVIC's or the IAEA's choice pursuant to any aspect of their mandates; further decides that UNMOVIC and the IAEA may at their discretion conduct interviews inside or outside of Iraq, may facilitate the travel of those interviewed and family members outside of Iraq, and that, at the sole discretion of UNMOVIC and the IAEA, such interviews may occur without the presence of observers from the Iraqi Government; and instructs UNMOVIC and requests the IAEA to resume inspections no later than 45 days following adoption of this resolution and to update the Council 60 days thereafter; …

Or to present it another way, the Security Council . . .



In this presentation, it is clear that the contents of each salient 'molecule' of meaning are being itemized in great detail. The point is to make everything as explicit as possible, leaving nothing unsaid and nothing to the imagination.

Now, you might think the U.N. wouldn't need all this verbiage, that they could have said the same thing far more cogently: "The Security Council decides that Iraq shall provide the **inspectors unconditional** access to **all** facilities which they wish

to inspect, and (…) to all persons they wish to interview…" One would think, in other words, that "unconditional" could stand clearly for all the words in that list. And, by itself, logically, it seems to. But the lawyers at the State Department spelled it out further, by itemizing a far more complex molecule of possibilities. Here, as in all cases, the discourse selects the possible qualifiers for the word "access". That list could contain not only "immediate, unimpeded, unconditional, and unrestricted", but others not chosen, such as "unannounced", "unaccompanied", and "unmonitored". And, as we know from the news reports, the inspections were indeed NOT always unannounced, they were often accompanied and monitored by Iraqi handlers. Thus, we see the growing precision of these terms as they all have to fit into one molecule and yet distinguish themselves from each other. The more there are in one order, the more finely they have to distinguish themselves from each other. Thus, the more precise the meanings.

In short, the way to be explicit is to fully itemize each marked element as it comes along. But this is legal language, not ordinary language. Not often does it happen that every item in the molecule is equally explicit and equally marked, but here is a case in which it happens.

When the molecule is not itemized, and it usually isn't, it must still be given a name. The question for us is, how do we understand what it is that that name names? In the standard theory, every word has its conventional meaning in the lexicon, and every meaning is a 'property' of that sign. In our understanding, though, any word, used in any position of focus no matter how momentary that focus is, is a sign that takes its meaning from the molecule as a whole. If you've ever wondered how it is that words can be misused, abused, bent out of all shape in daily discourse by careless speakers and writers, and yet at the same time be used with such precision by good writers and speakers, this analysis suggests a reason. It is because the molecular sememe gives order to the contents of our thought, and definition to the words we use to name those contents.

Now let me rehearse my argument just a bit before continuing.

1. Discourse is coercive, and that coerciveness selects a content of understanding, or perception, in its most-marked moments, and presents that to consciousness as a determinate, synthetic entity. I call this entity a molecule to reflect its complexity.
2. The meaning belongs to the contents of this unit as a whole, *as marked by* (perhaps we could say *"as prejudged by"* or *"as prejudiced by"*) the chosen name. Thus, the meaning does not belong to the word itself, but to the molecule, and to the discourse that chose and focused the contents of that entity. I call the named molecule the "sememe", for it is, I think, the fundamental unit of meaning in language.
3. By the way, all the alternative members of the molecule (if they are words) have the same grammatical value; or, to put it another way, the grammatical value of the chosen name belongs to the molecule as a whole, not just to the word. To put it still more strongly, it is the power of the discourse to select the contents of the

molecule which creates grammatical value, prior to the conventionalizing process which compromises and regularizes it into a language-wide 'system'.

4. The word chosen to name the molecule gets credit, for the moment, for the meaning of the whole molecule; and so it is that words can seem to have rich, complex, and nuanced meanings in particular discourses. Yet, as they are mere signs, the meanings don't really belong to such words, and they can't be counted on to carry the same meaning into the next discourse. But if they do name the same or similar contents over and over, they can become conventionalized and seem to carry a certain meaning permanently.

But here is the point that makes these examples relevant to Whorf, Orwell, and Pinker:

5. Since there is a rich complex of material residing in each molecule that we are unconsciously aware of, might it not be that thinking means *processing the other contents of the molecule*? Even the unstated other contents are ordered, determinate, and meaningful. They are always in our minds, not quite named, but potentially namable, and provide the contents of 'thoughts' that underlie our words.

Let us consider some other examples. After that I want to exhibit several kinds of logics that come out of those examples, and demonstrate how unsaid, unarticulated but ordered and determinate contents are presented to mind – in short, how 'thoughts' are present far above and beyond what we actually say or articulate in words.

When I was growing up I had three younger sisters. When my mother called one of them, she often got lost in their names. "Delia – ?" she'd say, "Jane? Margaret?". It seemed obvious that she held in her mind a 'molecule', not always fully articulate, of daughters. Now, this was not a logical category. She didn't say, "Daughter!", nor would she have been satisfied with whichever daughter answered. No, she had in mind a particular daughter, or at least a particular aspect of this group of girls (it might have been, for instance, the blond one – or the one who could play the piano – or the one who least minded being asked to dry the dishes), and she expected fully that the name of any one of them could serve as the name for any other of them. If they could read her mind, they would have known exactly which one of them she meant.

Now, I just said, and I believe it, that the name of any one of my sisters could stand, in my mother's head, for any one of them. That is hardly logical. In fact, that must sound awfully peculiar to those who are committed to categorical or Aristotelian logic. It makes it important to reiterate that *the molecule is not a category*. It does not belong to the epistemology of generalization and abstraction, of induction and deduction.

But it's not absurd either. There are other cases in which naming one of the contents might as well name any of the others. Last year President Bush, in a speech that shocked the world, said, "The United States has no plan to invade North Korea". From a logical point of view, there is no reason why a statement like that should shock anyone, but at the time many people said, "What??? Invade North Korea! Is he really thinking about that??"

Why? It must be clear that whenever something is denied, it must be first presented to consciousness. Politicians know well the uses of such rhetoric. A negation can establish an agenda just as well as an affirmative claim can, and selective negation can create false positives. For example, on June 1, 2003, President Bush (or his speech-writers) artfully composed another negation: "For those who say we haven't found the banned manufacturing devices or banned weapons [in Iraq], they're wrong, we found them".

Aerial photographs had located some wagons that might have been used to manufacture some kind of chemical. Of course the President did not want to be accused of literally claiming that banned weapons had been found, because that would have been a lie. But by linking them with "manufacturing devices" he seemed to give them the same status, and by denying their denial, he implied their existence. In fact, later information demonstrated that even the "manufacturing devices" couldn't manufacture anything illegal; but that was later. So once again, the President implied the discovery of WMDs without lying about it, at least not technically.

How does the rhetoric of negation work? A negative typically negates one term of a complex molecule, but first it implicitly affirms the molecule as a whole. So a rich complex of information is presented to our consciousness whether we are given words for that information or not. Bush's use of negation, contrived by an expert speech writer, was far more effective than Clinton's. Clinton's famously defensive "I did NOT have sexual relations with that woman!" did not, as it turned out, effectively deny the allegation. Rather, it left everyone wondering what he DID have with Monica Lewinsky, if not (something he might narrowly define as) "sexual relations".

There are many dynamics possible within the molecular sememe. Negation is only one of them. I have already mentioned some others, such as naming (including metaphorical naming) and itemizing. Thus, if 'thinking without words' means mentally playing among the other, unmarked or unnamed contents of molecules, there are several forms of such play. One can **query or interrogate** a molecule by itemizing alternative ways to mark it. One can mark or name molecules in **overstated** or **understated** ways, and create different rhetorical effects. Oblique general labels create **metaphors** as we saw above; we can manipulate careful degrees of **generality** or **particularity**. Various rhetorical effects result depending on whether one names the molecule itself (as question words like "who" or "when" do), or merely a counter in the molecule. Or whether the molecule contrasts words or contents. Then too, the relations among the contents of the molecules may themselves suggest a variety of logics. Is the relation between "safe" and "out" the same as, or different from, the relation between "strike" and "ball"? Or between "saving" and "spending"? Between "bulls" and "bears"? "Digital" and "analogue"? "Electric" and "acoustic? "Regular" and "Lite"? "Standard" and "automatic"? A logician might say that they all contain a logic of opposition or negation. But the opposition is within a different discourse (and therefore a different molecule) each time; and, like a little universe, every discourse is essentially and qualitatively different from every other.[10]

[10] When I say this, I mean it in a prototypical sense. Obviously, much has been conventionalized in discourse, and this means that many discourses take similar explanatory routes to clarity, and their

On one level, this is merely a reiteration of an old Structuralist argument popularized by Kenneth Pike, namely, that relations among words are "emic" rather than "etic": they find their meaning in contrast with each other, rather than with an objective or logical norm (Pike 1967). My revision of that argument is that words find their meanings not by contrast to every other word in the lexicon, but only by contrast to the other words in the molecule, all of which have been chosen by one particular discourse. We must recognize another essential fact forgotten by the cognitive scientists and the linguistic relativists both: language doesn't just *encode* the world. It would be more accurate to say, as I have shown above, that we *bring parts of the world into* discourse. What we communicate with each other are interpretations and perceptions of the world. We don't do that by *constituting* (or *reconstituting*) the world in our language, but by ordering it, marshaling it, and focusing our attention on certain aspects of it, through the coercive power of discourse. We have to remember that the world is always there before our words are uttered; by bringing it into discourse by means of the molecular sememe, we turn parts of the world into language. In some cases, the relation between discourse and the world may be something like the relation between the orchestra's conductor and the orchestra. His baton, we might think, creates the music; but it doesn't *constitute* the music; it only brings it to a focus, makes a discourse of it.[11]

As for linguistic relativism, it is not just that whole languages are incommensurate with each other; to some extent, even within one language, discourses are incommensurate with other discourses.[12] But if linguistic relativism is within each of us, can it really be said to be a cultural matter?[13] Whorf was right; language, thought, and culture (even *local* culture) are indeed interdependent. But maybe this leads not so much to the concept of linguistic *relativism* as to, as I would argue, linguistic *pluralism.* That is to say, perhaps it would be important to recognize that any language can express many construals of reality, and so can any one speaker. Indeed, experience teaches us that people's capacity to misunderstand each other is almost total, even when they come from the same culture and refer to the same sets of facts. Typically such speakers are not aware that the implications or presumptions of one discourse are incompatible with those of the next one – after all, it is extremely difficult to think in more than one paradigm at a time. But perhaps it is not at all odd

logics tend to resemble each other. But the essential tendency of discourse towards uniqueness is very real too.

[11] By the way, music is a form of discourse, and its phrases and gambits create molecule-selection-and-execution structures, just as human sentences do.

[12] It might be argued, for example, that on a simple level, the discourse of golf is incommensurate with the discourse of baseball. The word "steal" has no meaning in golf, and the word "putt" has no meaning in baseball. Paul Kay points out that the expressions "loosely/strictly speaking" and "technically speaking" both refer to coherent theories of how words refer to objects, but that the two theories are radically different from each other. For a thorough discussion of this issue, see Paul Kay's essay "Intra-speaker Relativity", in Gumpers and Levinson (1996), pp. 97–114, particularly p. 99.

[13] Kay argues that at least the "consequences (of linguistic relativism) for intercultural communication, and so on, may be less dire than often supposed" (1996, p. 101).

to recognize that when it comes to ordinary language, we may *not* be appealing to an assumption that the truth is one, or that there is only one over-arching logic which gives consistency to all our utterances.

Perhaps the real importance of learning to think about the molecular sememe is that it provides a way of thinking about thinking that does not depend on the classical structures of generalization, categorization, induction or deduction. Molecular sememes are indeed synthetic structures, and thus can generate highly nuanced and precise meanings and implications. I argue that through the model of the molecular sememe, we can find a way of talking about meanings rather than about codes, and that it will further our understanding of what language is.

Chapter 4
The Coerciveness of Discourse

4.1 Introduction

"A short story is a narrative that has a beginning, middle, and end": this definition, paraphrased from Aristotle's *Poetics*, has been repeated so often we may be forgiven for thinking we understand what it means. It seems to say that a short story has a structure, and that that structure is a manifestation of some logical or causal necessity. A "beginning" we say, if we wish to spell out the logic, "is that which necessitates something to follow but nothing to precede it". In turn, a "middle is that which…" but we can easily imagine what follows. Thousands of creative writing students have dutifully written it down in their notes, and wondered at the clarity of it, and berated themselves for not being able to *reason* their way to the opening lines of their next short story.

But that is the way of Western thought in general. We have the habit of thinking that behind the vagaries of verbal expression there must be something solid, some grounding principle, some set of *a priori* axioms from which we can derive the truth of the matter. This habit – or as I would put it, this *illusion* – of logically systematic thought, inherited from the Greeks, underpins most of our ideas of truth. By and large, we take it to be the foundation of meaning itself. If the hapless student of creative writing cannot then go on to derive an actual story line from this advice, then that is his fault, not the fault of his logic.

But it is, I want to argue here, an illusion to think so. What makes meaning possible is not an abstract logicality (formal logic, UG, 'language of thought', computer machine-code, take your pick) underlying language, but rather the fact that discourse itself has an underlying structure, a felt necessity which governs what is meaningful and what is not meaningful, and dictates its necessities to us whenever we construct sentences. We feel its pressure whenever we hesitate in choosing the next word; we feel relief when we have satisfied it, and anxiety and doubt when we haven't. I am not referring to syntax, though syntax is one of its *means*. I mean a kind of *coerciveness* that belongs to language itself, especially to language *in use in*

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discourse; it is expressed through distinctions which themselves depend on *which* discourse we are in.

Obviously, since there are many discourses, even within one language, there are many kinds of distinctions. In one discourse, for example, the opposite of "out" is "in"; in another, the opposite of "out" is "safe". I realize this argument commits me to what some would call a relativistic epistemology – I would rather say pluralistic – but I do believe that what lies at the bottom of our thinking is only a kind of coerciveness that comes from discourse itself. Like logic, it can provide, with its asymmetrical and local rules, an underlying discipline – even an ontology if you please – that structures thought, controls ambiguity and 'slippage', and is the ground which invests every (correct) usage with meaning.

What does this 'coerciveness' mean? Many people might argue that they don't feel any sense of being coerced by discourse. They might object that if we know English, or any language for that matter, we can say anything we wish to say, and we are not limited at all except by the limits of our own imaginations.

But can we say anything we wish? I propose an analogy. That claim is like saying that if we have a car, we can drive anywhere we wish. But in fact we can't. First of all, we have to stay on the streets. We can't drive through fields and creeks and into people's houses. We have to go where the streets go. Now, the streets go where they went yesterday, following the contours of the terrain and on routes which developed historically, each one at an economical distance from the next one (though intersecting at convenient places), and tracking from some place to some other place that people have wanted to get to in the past. Of course you can argue that, well, the streets go everywhere anybody would want to go, and that's good enough. And of course it is, unless we are trying to get somewhere nobody has been before.

This analogy suggests two broad senses of the word "discourse". In the large sense, "a discourse" is a set of semantic relationships that have become conventionalized to the point of being recognizable: i.e. "the discourse of baseball" or "American political discourse" or "post-structuralism" or "Keynesian economics". "Discourse" in this sense is analogous to a map of a city's streets, with the recognition that a map of Los Angeles doesn't look at all like a map of San Francisco, because its streets intersect with each other in a totally different pattern.

By contrast, "discourse" in a small sense is a specific piece of writing or speaking or conversation, local to a time and place and fully immersed within "a discourse" in the other sense. Such a piece of discourse is like a single drive across the city, using some of its streets to get from one place to another. Such a piece of discourse registers the coercion of the larger discourse; it is not possible to be in more than one discourse at a time any more than it is possible to be in more than one city at a time.

When I say that discourse is coercive, then, I mean that it dictates what we can say in the same way the street layout of a city dictates where we can drive. When we switch from the discourse of, say, baseball to the discourse of football, it is analogous to moving from the streets of San Francisco to the streets of Los Angeles. Perhaps the techniques of driving are very much the same, but the routes and the destinations are different. Slopes, curves, and speed limits are different, as well as

what streets intersect with what other streets. Statements like "Pedro scoops up the ball and fires to first base for a touchdown" are as impossible[1] as crossing the Golden Gate Bridge and turning off on Sunset Boulevard.

Discourse in the small sense has an additional feature the larger one doesn't have: it has *directionality*. When we take a drive across a city, we usually have a destination in mind. Analogously, a piece of discourse has purpose, intention, aim; these things are registered in a number of ways, including *salience order* (a kind of discourse markedness) and *focus*. In both speaking and driving, one is always situated at *one* location, but heading toward another, in some direction and with some destination in mind. In both speaking and driving we can see only one or two avenues from the driver's seat. We have to make a new choice at each intersection, and every choice narrows the next choice to a smaller set of alternatives. As we get closer, likely we will slow down, get off the freeway and make more turns, zeroing in on our target location. Of course we make these turns with more confidence if we have circumnavigated the terrain before. If we haven't, we may have to backtrack and reroute a few times before we find our way. There is a good side to that, though; by not knowing exactly where we are we may find ourselves exploring many sidetracks and back alleys. But soon we will navigate with confidence, knowing not only what roads to take but where the other roads go as well.

The dominant school of linguistics consists of formalists who believe that the essential thing to understand about language is how to generate *sentences*. They seem to assume that this is done instinctively, by reference to a universal grammar; they in effect argue that we have a built-in GPS, or a Satellite Navigation System. That is, we can always know where we are by an inborn reckoning sense, based in quantitative logic (or a UG), which tells us where we are at all times. More recently, many of them have been forced to recognize the importance of things like focus, which is in my view to be seen more comprehensively as destination, as purpose, intention, aim.[2] Such analyses are all committed to a bottom-up command structure, that is, the obedience of sentence-rules to an underlying constituent logic based in a universal grammar. I argue here for a top-town structuring, in which sentences seek to satisfy the discourse-level demands of purpose, intention, and aim.

Thus discourse is coercive in several ways. One is that, like streets, sentences run at a discrete distance from each other, distinct in purpose and intention and without overlapping. Another is that words, like streets, string each to each in ways that are already established; that is, both words and streets exist in *mutual presupposition*, and each one has its place on the map by permission of all the others already there. And third, streets like sentences, have directionality. They go in one direction or another, but not sideways, or backwards, or in random directions. A trip across town on the city streets takes us from one place to another; we always have a destination,

[1] I mean, of course, impossible in discourse terms, not in grammatical terms.

[2] Some of them, like Nomi Erteschik-Shir (1997), typically try to incorporate focus-structure as just another (computable) annotation on syntax, in which topic and focus constituents are marked, lying between the syntax and the semantics.

and that destination is what gives meaning to our choice at every intersection. Let me take up each of these points in turn.

4.2 The Discontinuous Landscape

The landscape of the linguistically possible is radically discontinuous rather than continuous. Sentences, as they develop, keep their distances from each other both in meaning and structure. As they differentiate themselves from each other in meaning, they also differentiate in form. Quite probably, this is so for reasons of communicative economy: in the noisy real world, precise and effective communication requires maximal, not minimal differentiation.

Writers learn of this quality of discourse when they try to revise their sentences. Changing one word invariably requires changing something else too, as if meaning can't be changed by a single increment. In speaking as well as driving, you can't just drive a little to the right or left; you have to choose one street or another. Suppose we have written a line of dialogue in a story:

(1a) I hope we can visit you again next week.

And we decide to change "hope" just a shade, to a near synonym, "want".

(1b) *I want we can visit you again next week.

Obviously that won't do. What about "wish"?

(1c) *I wish we can visit you again next week.

That won't do either. To make it work we must adjust some other words in the sentence:

(1a) I hope we can visit you again next week.
(1b') I want us to visit you again next week.
(1c') I wish we could visit you again next week.

But these are distinctively different sentences. In the case of the third sentence, the overall meaning has nearly *reversed* itself: instead of expressing the speaker's desire to visit again, it expresses her regret that she *cannot* visit again!

What caused this reversal of meaning? It is difficult to account for it either by the lexical change or the syntactic change. "Wish", "want", and "hope" are near synonyms; exchanging one for the other should not reverse the meaning. By the same token, changing the present tense "can" to the past tense "could" should not cause a negation of the original meaning. Here someone will instantly answer that by changing the tense I changed the "voice" from "indicative" to "counter-indicative" or

some such thing. But how? And is that a lexical issue? The answer lies not in constituency theory or even in syntax. It lies somewhere else, among issues – I started to call them rules, but on second thought, I think not – that I think belong to the coerciveness of discourse.

Every practicing writer knows that an alteration of word choice accompanies – and requires – an alteration of structure, often for no apparent reason. Is there a rule that says that "hope" requires a sentence complement, but "want" requires an infinitive in the accusative?

(2) I hope she sleeps well tonight.
(2a) *I hope she/her to sleep well tonight.
(3) I want her to sleep well tonight
(3a) *I want she/her sleeps well tonight.

Yes, perhaps so; but it's not a 'rule', it's just an alternative meaning, with its alternate form, to go in an alternate discourse. Inventing two different contexts illustrates the difference in meaning:

(2') Jane's tired. *I hope she sleeps well tonight*.
(3') I gave Jane a sedative. *I want her to sleep well tonight*.

Another pair of sentences that are nearly identical also have radically different meanings:

(4a) He has little money.
(4b) He has a little money.

By 'minimal pair' logic – and if discourse meanings really depended on word meanings, minimal pair logic *should* work – the word "a" would seem, weirdly, to flag the second sentence with its opposite, positive meaning. But of course it doesn't. They are not a minimal pair; they belong to different discourses, where different semantic relationships obtain:

(4a') I'm not sure Fred would go for a trip to Bermuda. *He has little money* for that sort of thing.
(4b') Why don't you ask Mr. Buffett to consider investing in your idea? *He has a little money*.

Indeed, some pairs of utterances are entirely identical, but have different meanings. We call them *puns*, of course, which may seem to disprove my point about all meanings being radically discontinuous; but the multiple meanings of a pun are given it by its membership in multiple discourses. Puns are like intersections, points where one can be momentarily on two streets at once. For example, the phrase "trapped in one bad lie after another" might belong to the discourse of politics or the discourse of golf. The accident of sharing a single expression in two different dis-

courses is fun, but it proves, not disproves, my point that the meaning comes from the discourse rather than the lexical items themselves.

In every different context we instinctively reach for the form that works, little realizing that the many choices are not simply evidence of the prolixity of forms available in English, but evidence of its ability to register fine distinctions among purposes, intentions, and aims. It may not matter much, from a semiotic perspective, whether the choices are lexical or grammatical; the fact that one choice works here in this context, and another works there in that context, reveals the *discipline* available to our discourse. In the discourse of baseball, for example, we are familiar with the verb-construction "strike out". It can be found in both transitive (5a) and intransitive forms (5b):

(5a) He struck out nine batters tonight.
(5b) He struck out three times tonight.

But notice that the transitive sentence is always about the pitcher, while the intransitive sentence is always about the batter.

Does this mean that a fundamental grammatical distinction (transitive/intransitive) results from a need to disambiguate a piece of baseball terminology? Of course not. More likely it is simply that when the discourse requires a distinction, any distinction will do. And since "strike-outs" apply to both pitchers and batters, adapting a handy grammatical distinction can serve the purpose as well as a lexical one can.

And very likely the point is *not* that the distinction is *grammatical*. The difference between the transitive and the intransitive sentence is merely the presence or the absence of an object. An alteration of pattern may not belong to one grammatical *category* or another; it may merely be idiosyncratic. For example, suppose we are describing some unfortunate children in a small mining village, and consider two versions of the sentence:

(6a) They go to work at dawn and they will not return home *before* dark.
(6b) They go to work at dawn and they will not return home *until* dark.

At first glance this particular alteration seems successful. In this negative context, the two choices seem to mean very nearly the same thing, and we can change one word without changing any others. Yet there is a palpably different 'feel' to the two sentences. I suggest this is because "before" and "until" behave, in *affirmative* sentences, very differently indeed:

(7) They will return home before dark.
(7a) *They will return home until dark.

And if we change the verb from "return" to "stay", we get yet another pattern.

(8) *They will stay before dark.
(8a) They will stay until dark.

Why should it matter whether words like "before" and "until" are used with positive or negative arguments? Logically it shouldn't matter, but the case demonstrates that changing from positive to negative entails not merely a lexical change but also a change in salience. Consider this exchange that was reported to have occurred during the impeachment hearings of U.S. President Bill Clinton. When Monika Lewinsky was on the stand she testified, according to the story,

(9a) He [Pres. Clinton] told me that I wouldn't have to give up the presents – if I didn't have any.

But President Clinton, when he was on the stand, said,

(9b) I didn't say that. I said she *would* have to give up the presents – if she had any.

President Clinton insisted on a distinction between the two versions. But don't they mean the same thing? Don't two negatives equal a positive? Grammatically, yes, but rhetorically, no. Unfortunately for Mr. Clinton, Lewinsky's version very likely suggested to her listeners that Mr. Clinton *had* given her presents, and meant for her to get rid of them. I suppose Clinton understood that, and tried to repair the damage. Negatives and positives have very different weightings in discourse, and represent another covert disciplining structure.

4.3 Mutual Presupposition

Another sense in which discourse is coercive is that all of its elements exist, as Greimas insisted, in a relation of *mutual or reciprocal presupposition*. This means that no word can inhabit a sentence without the permission, so to speak, of every other word there (Greimas 1983, p. 118).

When we generate a discourse we cannot merely follow syntactical patterns, inserting lexical items into slots at will. Standard syntactic theory suggests that we should be able to do that, and so sentences like the following create problems for syntacticians:

(10a) She's sitting in a café having a cup of coffee.
(10b) *He's walking into his office having a briefcase.

If one can "have" a cup of coffee, why can't one have a briefcase? Well, of course one can "have" a briefcase, one just can't be "having" a briefcase.

(10c) He has a briefcase. *He is having a briefcase.

Anomalies like these call attention to the fact that what objects are permissible depends not merely on the particular object and the particular verb, but may also vary from form to form. Discourse discipline requires combinatorial restrictions that are beyond categorical rules, and are unique even to the different forms of the verb. *Categorizing* all the permissible combinations may not even be theoretically possible.

(11c) A: She's having the Phillips' over tomorrow night.
B: What's the occasion?
A: She's having a party.
(11d) *She's having a party and the Phillips' over tomorrow night.

Why should (11c) be permissible but not (11d)? Formalists have typically explained such sentences by adding 'lexicosemantic' rules. But this means acknowledging that, as Adele Goldberg puts it, the syntactic subcategorization frames of a verb may be uniquely predictable from the verb's lexical semantics.[3] This is a polite way of saying that they persist in the search for such rules even though *every* verb may require its own set of rules. Functionalist grammars like those of Givon (1984) and Halliday (1985), on the other hand, try to answer such questions by specifying a new semantic category, sometimes called a case-role, for every distinguishably different verb-object complex. But that effort too runs afoul of special cases (like these), especially within local colloquialisms, requiring an ever-greater elaboration of categories, to the point where the effort seems less and less worth doing.[4]

If categorization doesn't work, what does? Goldberg, in the spirit of "Construction Grammar", tries to go beyond the traps of categorization by positing *constructions.* She argues for the primacy of certain idiomatic structure-meaning match-ups which she says are a special subclass of constructions that "provides the basic means of clausal expression in a language" (Goldberg, 1995, p. 3).[5] Her move to individual constructions is an acknowledgement of the likelihood that categorical rules are not sufficient.

[3] Goldberg (1995) cites Levin (1985), Chomsky (1986), Levin and Rapoport (1988), and Pinker (1989).

[4] Notice for example the elaboration of categories in Kay & Fillmore's Glossary entry for "valence", which is meant to indicate a verb's capacity for taking complements:

The *adjective* "afraid" can be said to "take" a *subject* which expresses an *experiencer*, and a *complement* which expresses the *content of the experience*, this expressed either with a *finite clause* ("I'm afraid he'll lose the election") or a *prepositional phrase* headed by "of" ("I'm afraid of earthquakes"). The representation of the *valence* of this *adjective* is expressed as a *set* whose members are *feature structures* specifying the values of three *attributes: grammatical function, "theta" role, and morphosyntactic form...* (emphases mine). *Cf.* the Berkeley Construction Grammar website at http://www.icsi.berkeley.edu/~kay/bcg/ glossary.html

[5] By this she means various kinds of relations between verbs and their objects: the Ditransitive, the Caused Motion, the Resultative, the Intransitive, etc.

4.4 Directionality

If, as this evidence suggests, every word in every sentence evinces a complex and perhaps unique potentiality for combining with other words, then this is bad news for those who would generate computable rules for predicting all the possible sentences of a language. But at the same time it follows that discourse always and already possesses the discipline required for organizing its meanings. In fact, every string of words dictates what can follow it; and the longer the string, the more limited the possibilities. This is what it means to say that there is *directionality* in every piece of discourse. The words which come first predetermine those that come later, and the ones that come later presuppose the ones that come earlier in a kind of purposive abduction. And this means that a piece of discourse is a disciplined sequence of elements in *a chain of increasing salience.*[6] English is most salient at the end of the sentence; i.e. at its most salient, the restrictions are greatest. It is at this point we can see the productive implications of this coerciveness.[7] That is, this salience structure is what indicates the *purpose, aim, and intention* of the discourse. What comes first – the topic – appropriates some bit of the ongoing familiar discourse and orients the reader/listener to the new discourse by claiming *scope* over the rest of the argument. This assertion of scope is a projection of aim, so that what comes later fulfills the expectation of what comes earlier. All of this is indicated by a salience-default word order, as manipulated by salience-raising or salience-lowering alterations, and these alterations enable us to communicate our intentions and purposes to each other.

(12) A: How do you like these new walking shorts the girls are wearing?
(12a) B: They are very cute but they aren't a bit sexy!
(12b) B: They aren't a bit sexy, but they are very cute!

Clearly, in English, the emphasis comes at the end; the last words are often taken, even, as *more true* than those which come earlier, as propaganda writers know:

(13a) Coalition forces claimed the air strike killed 29 radical Islamist insurgents, but local officials said the dead were all innocent students at a local religious school.
(13b) Local officials said the victims of the air strike were innocent students, but a coalition spokesman said the mission killed 29 Islamist insurgents hiding at the school.

[6] All the Romance languages have a structure of increasing salience. Others, like Japanese, combine word order with overt salience markers to indicate a generally decreasing salience. But every language has some means of indicating salience.

[7] I have omitted a major implication of this coerciveness from this paper: the way the salience structure of discourse focuses on what I call a *molecular sememe*, which is the "arena" in which word meaning-in-context is created. For more about that, see Caldwell (2004) and Caldwell (1989). [Reprinted here in their final form as Chapters 3 and 2 respectively – Eds.]

(14a) Palestinian officials said the rocket attacks were in response to continued air strikes on civilians in the Gaza strip by Israeli warplanes.
(14b) Israeli officials said the air strikes in Gaza were in retaliation for continued rocket attacks by Palestinian terrorists.

Clearly, the differences in import of these sentences are not owing to lexical or grammatical matters so much as to the *directionality* of the discourse. Fillmore (1968, f.n. p. 49) noticed a similar effect in the following sentences:

(15a) Bees are swarming in the garden.
(15b) The garden is swarming with bees.

The first sentence implies that there are bees in some part of the garden; the second implies that the *whole* garden is full of bees. Another subtle problem, noted by Goldberg (1995, p. 3), is represented by the following pair:

(16a) I am afraid to fall down.
(16b) I am afraid of falling down.

The first is felicitous only if there is some intention to deliberately fall down, while there is no such implication in the second version.

Many people have noted such subtle shifting of meaning even in sentences which use the same words, leading them to agree with Dwight Bolinger that "A difference in syntactic form always spells a difference in meaning" (1968, p. 127). In other words, there is no synonymy among grammatical forms any more than there is true synonymy among words. This principle has already been enunciated, as Adele Goldberg says, by many linguists working in the areas of Functional Grammar (Goldberg, 1995, p. 3).[8]

But it's more than that. It's the *discourse salience* that is important. For example, let me offer an explanation for Goldberg's example above:

(16a) I'm afraid to fall down.
(16b) I'm afraid of falling down.

The point is that these two sentences belong to different discourses. Anyone could imagine contexts within which they would make sense: here, to illustrate, are two:

(16a') What? You want me to rush out of the bank with my gun in my hand, and then trip over the fire hydrant and fall flat on my back in the street? No way. Get me a stunt double. **I'm afraid to fall down**. I'm 68 years old and I'll surely break something.

[8] See for example Givon (1985a), Langacker (1985), Clark (1987), and Wierzbicka (1988).

(16b') That's a nice bike, Dave, but I don't think
I want to take a ride on it. **I'm afraid of falling down**
and breaking a leg or something!

That is, in context (a) the idea of falling down is already established, and therefore does not have to be given a marked position in the sentence in question. It can be demoted to the infinitive form, leaving "afraid" as the salient term:

(a) I'm → **afraid** ← to fall down.

In the other context, however, it's the fear which has already been suggested, so its specific *object* is what needs to be called attention to. Thus, "falling down" is the salient element of the sentence:

(b) I'm → afraid → of **falling down.**

Salience is not merely a left-to-right (print) or a time-relative (speech) directionality in actual discourse. It is also an expression of the *relevance order* of the elements of the discourse; in turn, relevance is an expression of *the intention, aim, or purpose* of the speaker of the discourse. Linguists have historically avoided any discussion of intention or purpose or relevance because of the subjectivity of the issue, that is, the difficulty of finding objective indications of it for empirical study. But as I can show, there *are* objective indications of it, in the raising or lowering of levels of specificity relative to the left-to-right *directionality* of the discourse.[9] In short, discourse does have a beginning, middle, and end, but not because of logical necessity. It has its own necessities.

In this paper I have tried to demonstrate three kinds of discipline exerted on the forms of sentences by discourse. I want to combat the prevailing view that sentence syntax is the only, or primary, kind of command structure that language needs in order to function. I also want to counter the prevailing view that the meanings of language, compared with the rigors of logic, are full of vagaries and imprecision, confusions and indeterminateness. Such is not the case. Rather, it is our *understanding* of discourse, with our insistence on relying on categorical procedures for understanding that is lacking.

Indeed, discourse enforces the disciplines detailed above, and discipline in itself implies structure. Normally when we think of structure, we mean some phenomenon whose organization has been dictated by a set of rules, or whose features are the manifestation of a set of rules. But this is not the only way, certainly not the only way in nature, and quite possibly not the only way in language either. Language may well be more like biology than logic, more like a growing thing than a diagram or blueprint. Discourse, having its own discipline, has the power to

[9] For more detail, see Caldwell (2002).

organize semiosis – that is, by limiting how each of its signs can be *used*, it can cause each possible combination to have its own unique meaning.

How does discipline, by itself, enable meaning? Let me shift the metaphor one last time. Imagine trying to walk on ice. Without traction, one can only flail about, getting nowhere. But put a blade on each shoe, limiting its sliding to two directions, and one can then turn helplessness into grace, and motivate oneself in any direction with precision and high speed.

Chapter 5
Molecular Sememics (Unfinished Book Manuscript)

5.1 The Molecular Sememe

5.1.1 The Usefulness of the Model

In presenting the 'molecular sememe' it is not sufficient just to give it a formal definition as if it were a new grammatical or semantic entity I had found lurking heretofore unseen in some logic-gap among our grammars. It has status only within a revised paradigm which will require some practice to imagine. The first thing it requires is rethinking and criticizing some of the most fundamental assumptions of linguistics as a science, a kind of working backwards. I'm encouraged in this method by what Peirce called 'abduction', the logic of forming speculative hypotheses:

> The surprising fact, **C**, is observed;
> But if **A** were true, **C** would be a matter of course,
> Hence, there is reason to suspect that **A** is true.

Let me begin by listing some of the **C**s, the 'surprising facts' that need to be explained, and some of the surprising answers Molecular Sememics suggests. This list is in large measure a paraphrase of Talmy Givon's description of the range of questions any explanatory theory ought to be able to handle (Givon 1979, pp. 3*ff*).

(A) Propositional Contents
The structure of language must reflect 'sentence level message structure'. Givon says message structure includes specifications of events in terms of who was subject of the event, what was [the] object, and what transpired, and that it is unlikely that, whatever the structure is, it can be understood without reference to this parameter.

Discourse is not dependent on propositional contents. If there are any propositional contents, discourse creates them. Discourse does not take propositional contents as prior, constitutive, or even necessary. Of course it uses the elements of experience as tokens or signs with which to construct meanings and to transmit

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information at the sentence level. But we find their organizational structure in the 'molecule-selection-and-execution structure' (MSES), not in exterior 'facts'.

I would put it a little more simply: any explanation must account for the communication of meaning, or at least the illusion of making sense.

(B) Discourse Pragmatics
Any explanation ought to be able to account for 'communicative structure'. This includes a range of observed phenomena such as sequencing, theme selection, topic-comment relations, presupposition, speaker-hearer conventions, foreground-background distinctions, and so on. I am going to try to group all these under the non-technical rubric of 'teleological structure'. In Molecular Sememics, sentence structure is the structure which expresses a speaker's purpose in speaking, and the tactical means by which s/he articulates those intentions.

(C) The Processor
As Givon puts it, "the properties and specific structure of the channels which process speech in and out of the brain – neurological, acoustic, articulatory, etc. – undoubtedly exert their influence in shaping the structure of language" (Givon 1979, p. 4).

(D) Cognitive Structure
As Givon says, "it seems unwise to rule out the general cognitive and perceptual structure of the human organism from having strong bearing on the structure of language" (Givon 1979, p. 4); especially, I would add, perceptual structure. Language can be thought of, along with other forms of motor behavior, as the output half of an environment-response system, the input half of which is sensory perception. There are likely to be strong affinities between the structures of language and the structures of sensory perception.

(E) World-View Pragmatics
"Both our grammar and lexicon reflect – and are fashioned by – a constructed view of our universe. A number of important features of human language cannot be understood without reference to such world-view and the ontology which must underly it" (Givon 1979, p. 4). While Molecular Sememics does not require the assumption that a (single) ontological structure underlies our world view, or that the point of contact between language and world lies in ontological structures, certainly language and world-view are parts of each other.

What is harder to account for is how so many incompatible world-views exist, and how inevitably right each once seems to the speaker of the language which gives rise to it. Molecular Sememics argues that the molecular sememe is the arena within which words and worlds come to terms with each other. Thus, the terrain of the named world which results from this negotiation underlies, in a real sense, the structure of our language. 'Grammar' then, consists of micro- and macro-molecules of many kinds which, since they are universes in themselves, may not be logically consistent with each other at all.

(F) Ontogenetic Development
The fact that every child who is not severely brain-damaged learns the language(s) of his or her household, automatically and without instruction, must be accounted for by any explanatory theory. Molecular Sememics provides an extremely simple and intuitively appealing explanation for this fact: children learn language by learning words.

(G) Diachronic Change
"Since language changes constantly, and since the imprints of linguistic change are strewn, like ancient relics, across the synchronic landscape of phonology, morphology, and syntax, eliminating diachronic facts a priori – a la Saussure – from the realm of relevance to our understanding of the synchronic structure of language is both unwarranted and unwise" (Givon 1979, p. 4).

(H) Phylogenetic Evolution
Chomsky argued that "it is quite senseless to raise the problem of explaining the evolution of human language from more primitive systems of communication that appear at lower levels of intellectual capacity …" (Chomsky 1968, p. 59). But this is clearly a convenient exclusion of difficult questions from his study. Certainly, as Givon says, the possibility that evolution has left marks on the structures of human language cannot be dismissed a priori.

(I) The Existence of Dependent Macrostructures
Perhaps Givon meant to include this as an extension of [A] above. If not, I would add that any imputed explanatory theory ought to be able to suggest how it is that logic, poetry, science, and literary criticism can utilize, to their own diverse ends, the structures of language. What kind of a thing must a language be, if on the one hand it can provide a ready-made network of conventions rich enough to make any native speaker think he can think, and on the other hand provide the flexible, precise instrument with which poets and philosophers and scientists continually change our conceptual world?

5.1.2 The Model

In looking for the **A** that might explain the full range of facts (**C**) included within these parameters, the first step is the speculative revision of many familiar constitutive concepts. What follows is a list of hypotheses, not a list of facts or factual claims. For the moment, I will not try to demonstrate the truth of any of them. Later, I will try to put them into the context of the history of linguistics. Meanwhile, they are presented on the premise that the first step is simply to imagine the revised paradigm. The first argument for the paradigm is not that it is immediately compelled by the evidence, but that it has potential for explaining the variety of facts listed above, many of which are difficult, if not impossible to explain within

current paradigms. Reimagining anything takes practice. It is probably necessary to oversimplify, at first, for the sake of the appearance of orderliness.

(A) The Molecular Sememe

The first and perhaps easiest thing to say is that the Molecular Sememe is what one has in mind at the instant of choosing what to say next. It is not the word chosen, but the choice itself, expressed as an organically conceived group of possibilities available for the particular sentence only, one of which is chosen.

A.1 – I describe this group of possibilities as "molecular" in hopes of metaphorically suggesting that its structure is not systematic, hierarchical or symmetrical, but rather natural in the sense that its 'shape' is an expression of its internal energies and indicative of the elements it contains. Thus, the red light in the traffic signal means what it means in a finite, unsystematic and unsymmetrical 'universe' of possibility that consists only of red, green, and yellow lights. Whatever the details of 'context' – the Highway Code – the semiotic event is ordered as *a struggle for meaning within the arena of this molecule of possibilities*. The 'molecule' is a kind of mini-universe of possibilities, an elastic and integral whole within which elements arrange themselves according to their own affinities or antipathies with each other – that is, according to the degree to which they are alike or unlike each other.

A.2 – To call the molecule the 'sememe' is to assert that the molecule as a whole is the fundamental unit of meaning. This may seem unorthodox because it insists that the sememe is larger than a word, a synthetic order rather than an analytic or atomic unit. Heretofore, it has been pretty much universally agreed that the fundamental units must be discreta of some kind: bits, or phones, or features, or figurae.[1]

A.3 – Admittedly, it is difficult to think of the red, green, and yellow lights of an electric traffic signal as having a meaning, in and of themselves. There is no word for it, anyhow: "traffic signal" seems to point to the mechanical device itself, rather than precisely to the three signs taken as a single universe of meaning. I would rather say, therefore, that meaning belongs to the molecule *as marked by* the element or counter selected. The molecule is the arena within which meaning (through struggle) is formed, in the speaker's act of choosing a particular available morphological token for a particular use in a particular speech act. The molecular sememe structures the confrontation between available conventional signs and immediate experience, and thus stands at the interface between language and the world. The implications of this for epistemology will be explored in a later chapter.

(B) Langue Versus Parole

Some readers will, however, see an immediate problem with all this: Molecular Sememics as a paradigm is clearly based on the radical extension of contrastiveness or differentiation, in its raw form. Although it is the principle with which the concept of the phoneme was established, it long ago frustrated the hopes linguists had for it.

[1] On the other hand, the function of the molecular sememe at the level of the semiotic is not theoretically different from the function of the phoneme at the level of the phonology. Both are synthetic orders. More about this later.

However basic and intuitive it is, it has proved only partly successful even at the level of the phonology, and methodologically unworkable at the level of the semantic and syntactic systems. In its idealized and quantified form as binary opposition, however, it has been somewhat more successful in the analysis of language as structure.

The Molecular Sememe, on the other hand, is created by, and exists only for the duration of, a particular speech act. It therefore belongs not to langue, but parole, and is a unit in the description of language as process, not as system. It is not reducible to binarism. This fact creates one important methodological distinction, and requires several supporting hypotheses.

B.1 – Differentiation requires description within the terms of part-whole relationships, not item-category relationships. Hierarchies exist only in the sense in which wholes can be parts in larger wholes, not as some categories subsume others. Though linguists have generally scorned as "organicist" any extension of part-whole logic to language as system, I mean to insist on it as the principle of local structure in parole. There, differentiations are not to be subjected to an internal feature analysis on the assumption that differences must always appeal to a universal inventory of possible discriminations.

B.2 – To say that the Molecular Sememe belongs to parole requires a further unorthodox hypothesis: that parole is prior to langue in the process of language creation. The Molecular Sememe creates meaning *prior to the conventionalization of meaning as belonging to lexical or semantic categories*, categories that belong to langue. Thus, I have used the term "sememe" rather than lexeme or tagmeme.

B.3 – How, then, is the system of langue created from the accidents of parole? To explain this requires the hypothesis that there is a process of conventionalization, by which process molecules which recur often enough enter into common currency. First they become habitual, and then structural, influencing the formation of subsequent molecules. One implication of this is, of course, that from the point of view of parole, langue is not really systematic at all, but merely a collection of habits and conventionalizations.

(C) Sentence Structure

Once word meaning is established as the result of the dynamics within the molecular sememe, there still remains the problem of determining meaning and structure at the level of the sentence. After all, the sentence itself has universally been taken as axiomatic for the study of syntax and semantics.

The major hypothesis required is an hypothesis concerning the teleological structure of discourse. Human beings, when they speak, are typically governed by a desire to make sense. To put it simply, teleological structure is the form an utterance takes when it is purposive, or guided by the intention to communicate (what Givon (1979, p. 31) calls a "communicative purpose").[2] In a simple sentence in a discourse, there is only one molecule asserting new information. The other words in

[2] Since this is characteristic of ordinary language, this study will, accordingly, allow as data only sentences which were written or spoken within the need to make sense about something (as opposed, say, to sentences written specifically to illustrate principles of speaker competence). Artificial languages are not included in this study.

the sentence refer to presuppositional meanings – meanings already defined (molecularly) within the discourse – or are function words, which orient and focus the sentence's teleological structure. The 'other' words of a sentence are thus redundant semantically but important structurally. They serve a two-fold purpose (and grammar is the expression of these purposes): to repeat and reinforce the meanings that have already been (molecularly) established for the present discourse, and to define the 'molecule-selection-and-execution structure' which is the sentence. That is, the grammar of a sentence is an expression of the moves necessary to select and control the elements of the molecule which supplies the 'new information' of the sentence.

C.1 – Discourse is a hierarchy of teleological structures, each of which is a 'molecule-selection-and-execution structure'. Each teleological structure has at its focus one molecular sememe, and should itself be taken as the convenient unit of analysis in discourse, rather than the sentence itself. Discourse structure is to be seen as the result of the hierarchization of competing teleological structures.

C.2 – A molecule is 'selected' by its sentence as a momentary focusing on the counters which it comprises. A molecule is 'executed' by selecting ONE of the counters to mark the molecule. The resulting meaning is said to belong to the molecule as marked by the chosen counter.

(D) Conventionalization

Since parole is asserted to precede langue, it must also be explained how the molecular dynamics of speech acts influence, and are influenced by, the current state of the morphology. To put it briefly, conventionalization is the process by which new molecules, which are successful enough to bear repitition, become habitual and begin to influence the formation of other molecules. Eventually we call these habituations 'rules'. Syntax is the result of the conventionalization, through repitition, of successful molecules. Grammaticalization and lexicalization are both instances of conventionalization, which is a move from the marked to the unmarked within discourse structure.

D.1 – Heretofore it has regularly been assumed that grammatical categories are prior to semantic ones, but Molecular Sememics does not assume that; in fact it may not if it hopes to offer plausible explanations for phylogenetic and ontogenetic phenomena. In parole the molecule really doesn't care what kinds of 'categories' of meaning will result from its momentary orderings of available counters; it orders itself according to the local and momentary economics of meaning. In the process of conventionalization, however, a number of apparent categories might be created, as regularizations of molecular structures in many planes and many levels: syntactic, stylistic, formal, positional, dictional, perhaps even political, epistemological, aesthetic. Deciding which of these planes to give structural status to has been a makeshifty business. Since 'syntactic' categories seem to be relatively easy to isolate, linguists have given them priority and status. But that may well reflect methodological felicity more than anything else.

D.2 – As an extension of our habit of thinking in terms of categories, we assume there are, likewise, semantic categories. Whether to define them at the expression

level or the content level, and into what classes, has been a matter of much debate. The present study hopes to avoid much of this trouble by (i) moving the issue to parole, to a point prior to such classification, and (ii) arguing that the essential structures are not categorical at all, but molecular. We will, however, try to distinguish between word and world, between content plane and expression plane, as we describe the dynamics within the molecular sememe. The molecule itself is the arena where experiential contents are matched with available morphological materials, so that the meaning 'assigned' to the chosen counter is a meaning wrested out of struggle.

5.1.3 Some Implications of the Model

The model suggested by the concept of the Molecular Sememe is a biological model, not a computational one. It does not view language as a code, nor does it see any simple or constant relationship between a sign and its signification.

1. As such, its structure cannot be presented as an ordered list of prescriptive rules.
2. Its ordering principles are not categories, but molecules. These molecules are 'universes' in the sense that they do not relate to other molecules in necessary or logical ways as instances or classes. One molecule may be analogous to another; one may be a 'part' or a 'counter' of another. There may be co-ordinate or subordinate relations among them, but they do not enter into categorical relationships with each other.

The model also supposes that 'surface structure', insofar as it expresses the teleological structure of an individual utterance, is prior to 'deep structure'. The fundamental distinction between deep structure and surface structure is still viable; however, MS radically reorients it.

The relationship between a sign and its signifier is radically altered in MS. All signs, in form, are either names or markers, or both. No sign is universal except within its molecule. The lexicon is looked upon as a warehouse of convenient tokens, each bringing with it its own history and its own habits, but bearing no logical or ontological rules governing its possible uses. Some of the consequences of this can be put aphoristically:

1. There are no ideas, only distinctions.
2. All distinctions are, at first, local and momentary.
3. Any sign can mark a local distinction.
4. An especially useful registration of distinctions in parole becomes, through repitition, habitual. Habitual distinctions, through the process of conventionalization, become 'categories'.

'Grammar' is not a given structure, not fundamental nor foundational in any way. It is merely a set of convenient supporting operations, useful for 'demoting' already-defined meanings from the status of assertion to the status of sign-posting or status-

marking, for the sake of orienting new material to the old and reminding us of what we have already said. The large 'categories' of grammar (Subject, Predicate, Object) are of course very durable and are found in most languages. But they carry no constant meanings (Agent, Action, Acted-upon are very approximate and untrustworthy), and are more efficiently seen as simple molecular assignments to different sectors of the 'universe', so as to keep them (i) apart from each other and (ii) available for complementary uses.

The major 'functions' of grammar (predication, complementation, modification) are merely different expressions of coordinate relationships between unlike entities, or subordinate relations between like entities. Likewise, they carry no constant meanings.

MS suggests answers to long-standing puzzles concerning language change over time (diachronicity) and the structure of the so-called LAD (Language Acquisition Device), which allows small children to learn the language of their parents without being taught (ontogenetic development).

It also suggests answers to long-standing puzzles concerning the relationship of linguistics to literature. Many literary macro-structures have explanations rooted in molecular theory, such as the relationship between the lyric and the ironic; overstatement and understatement; ellipsis and parataxis; metaphor, metonymy and synecdoche. Even such macro-structures as plot, characterization, and point of view may be molecular.

What's more, answers to long-standing questions about the relationship between language and world-view or metaphysics may arise, for MS clarifies the so-called Whorfian Hypothesis by showing in more detail the relationship between language and reality.

MS also suggests answers to long-standing debates among realists and nominalists over epistemological questions. For the MS paradigm drastically revises the concepts of denotation and connotation.

5.2 History and Method

5.2.1 History

(A) Langue, Langage, Parole

The story of linguistics in the twentieth century begins in the semiology of Ferdinand de Saussure. Two of his questions were central to this study: What kind of thing is an ordinary language? And how does it make or express meaning?

To be sure, his formulations of these questions were a little different from mine. He asked, "What is the integral and concrete object of linguistics?" and "What is the nature of the sign?". In Saussure's version, the first question was as much a methodological one as a theoretical one. He wanted to distinguish linguistics as a science from both the normative grammars of the eighteen century and the historical

studies of philology and phonetics in the nineteenth century. And he wanted to separate it from the contemporary studies of psychology, anthropology, and phonics.

In some measure no doubt, this new framing was a move born out of a frustration owing to the fact that language was too many things. It needed to be analyzed as both sounds uttered by mouths and as sounds heard by ears; as a physical and a psychological entity; as an individual and a social activity; as a fully-formed system and a system in the midst of historical evolution; as a behavior children learn without being taught and a behavior adults know without knowing how they know it. Saussure's idea was to isolate language, both from its fluid character as a historical phenomenon and from the unmanageable accidents and varieties of local speech, and study it as a synchronic phenomenon, a set of relationships existing simultaneously at a single moment.

Taken as a whole, speech is many-sided and heterogeneous; straddling several areas simultaneously – physical, physiological, and psychological – it belongs both to the individual and to society; we cannot put it into any category of human facts, for we cannot discover its unity. Language, on the contrary, is a self-contained whole and principle of classification. As soon as we give language first place among the facts of speech, we introduce a natural order into a mass that lends itself to no other classification (Saussure 1959, Course 9).

Saussure's definition of langue, of language as the system which becomes visible when speech is viewed synchronically as an idealized social object, was indeed brilliant, especially in its contribution to methodology: one could avoid becoming bogged down in the morass of everchanging meanings, sounds, and grammatical rules. One could instead think cleanly and abstractly about the internal relations among the various components of a system. Much later, Roland Barthes called the decision "a great novelty" by comparison to the methods of historical linguistics of the last century.

Brilliant as it was, Saussure did not credit the idea of langue with ontological integrity. Unlike many who followed him, he did not think this concept of language was axiomatic. He knew it was a makeshift concept, a heuristic. He realized that the 'system' was really no more than a set of habits seen deliberately as an idealization. For that matter, "langage" itself, as distinct from "parole", was artificial and static. In no way could it describe speech in action, and it was not alive. As the set of social conventions which underlay individual speaking, it only had "potential life". He understood that, finally, it would be necessary to consider the historical fact of the individual speaking (Saussure 1959, p. 77). He argued that it was the dialectic between society and the individual during the passage of time that made speech what it is, a dynamic, changing thing. That was both the truth of the matter and the obstacle to study.

Still, however makeshifty the idea of language was, he could see no choice. In justifying it he argued not only that the 'natural order' in individual speech was impossible to discover, it was unnecessary to try. To his mind, the individual could never, by himself, have any effect on the development of the language:

> The arbitrary nature of the sign explains in turn why the social fact alone can create a linguistic system. The community is necessary if values that owe their existence solely to usage and general acceptance are to be set up; by himself the individual is incapable of fixing a single value. (Saussure 1959, p. 113)

By "individual" Saussure was obviously not thinking of Shelley, who thought individual poets were the "unacknowledged legislators of the world", specially inspired people who, in his Romantic conception, could indeed contribute to the fixing of values in the world. He was thinking of individuals purely as members of the community, whose language is purely the sum of the community's conventions. Some recent critics have taken Saussure to be saying something theoretical, presaging what later structuralists such as Foucault (1972) and Levi-Strauss (1963) have characterized as the "disappearance of the subject". Very likely, though, he did not mean to minimize the possibility of individual creativity. He only meant that whatever originality is created in an individual's speech, it must be assimilated through repetition into the speech of the community before it has any influence in 'fixing' a value.

The operant word in the passage quoted above is "system". Saussure meant to show how the concept of differential value gave rise to the system of conventional meanings, itself the creation of the community of speakers. While this process remained mysterious (the notion of arbitrariness does not in itself explain nearly as much as Saussure pretended), the idea of the system itself was compelling. There must be a system, we have come to think. Otherwise we would not know how to interpret each others' words.

(B) System and Formalism

However the system came into being, its existence was quickly acknowledged and isolated methodologically as an object worthy of study in itself. Despite the concept's origin as a tactical move, it became a formalism, powerful enough to provide the foundation of linguistics as a science. Here, linguistics could ignore psychology and anthropology, philosophy and literature. Reacting against the purely descriptive mode of dealing with non-recurrent phenomena the humanities insisted on, Saussure could claim that language was regular and systematic, and therefore he could explain it in scientific terms, not just describe it.

Thus, Louis Hjelmslev, Saussure's disciple, felt himself justified in categorizing distinctions between the content plane and the expression plane; between internal and exterior relations among signs; between language as system and as a process; between the syntagmatic and paradigmatic relationships among words. The vision of language as a structure of interlocking syntagmatic and paradigmatic categories in a two-axis coordinate system emerged as a compelling vindication of the methodologies then current, and their best illustration. By 1943, Hjelmslev reflected the universal acceptance of an unarguable set of assumptions without which, it seemed, science itself could not exist:

> *A priori* it would seem to be a generally valid thesis that for every *process* there is a corresponding *system*, by which the process can be analyzed and described by means of a limited number of premises. It must be assumed that any process can be analyzed into a limited

> number of elements recurring in various combinations. Then, on the basis of this analysis, it should be possible to order these elements into classes according to their possibilities of combination. And it should be further possible to set up a general and exhaustive calculus of the possible combinations. A history so established should rise above the level of mere primitive description to that of a systematic, exact, and generalizing science, in the theory of which all events (possible combinations of elements) are foreseen and the conditions for their realization established. (Hjelmslev 1961, p. 9)

To be sure, all this found disfavor with Leonard Bloomfield, for whom the scientific method meant purely inductive description of individual speech phenomena at a factual level. Bloomfield distrusted abstraction, speculation, and even explanation.[3] In general, American linguists such as Boaz and Sapir and Whorf dealt richly and descriptively with speech as community facts (particularly of native American Indian languages) during the 1930s and 1940s and 1950s. But in the late 1950s, Chomsky and Morris Halle moved back toward Saussure with frankly mentalist proposals concerning the nature of language, proposing that Saussure's idealized social object was in fact a set of competency rules unconsciously internalized by the native speaker. By then, an idea that had begun as a tactical move had become the object of study in itself, a formalism that took the place of an explanation.

(C) Concepts of the Sign

The concept of the structure as an idealized social object was made possible partly by Saussure's speculations on the ancient philosophical question concerning the nature of the linguistic sign. Saussure described it as a relationship between a signifier and a signified. The idea of the system, then, as the sum of all the relationships existing simultaneously among all the signifiers, was a complementary idea. But this question provoked another: What is the relationship between all the signifieds?

This was the most problematic question. Saussure concluded that the answer was either unknowable or indeterminate. In any case it was different from one language to the next; certainly there was no one-to-one relationship between the structure of the signifiers and the structure of the signifieds. The relationship between signifier and signified for any particular sign, therefore, was arbitrary.

The idea of arbitrariness grew out of Saussure's convincing analyses of the phonetic material of which speech is made. Examining 'minimal pairs' of morphemes, he studied what Baudouin de Courtenay had called "phonemes", minimal sound differences that made a difference in meaning, and concluded that these sounds carried no meaning except in their differential to each other. Their ability to generate meaning in morphemes was thus arbitrary. The resulting concept of the phonology, systematic yet arbitrary, became the most successful idea in structuralism. Naturally, there was the desire to apply the idea next to the morphological, syntactic and semantic systems. Alas, the principles of differentiation and arbitrariness did not seem to work there.

[3] On the other side, see Hjelmslev's criticisms of the use of induction in linguistic description (1961, p. 12).

Strange to say, linguists have successfully applied the concept to still higher levels of analysis, to discourse-level or text-level analyses. Levi-Strauss's "mythemes" and Roland Barthes's "logemes" are cases in point. But efforts to deal with the lexicon and the syntax within the purely differential logic of the phoneme have been mostly unsuccessful. While Saussure himself insisted that within language as a whole there are only differences, with no positive terms, Roman Jakobson argued that phonemes were different in that respect from all other linguistic entities. Taking Saussure's example of the contrast between the German singular "Nacht" ("night") and the plural "Nachte" ("nights"), Jakobson granted the differential value – "It is true that the two members of this pair mutually presuppose each other" – but he would not accept Saussure's insistence that "taken in isolation neither 'Nacht' nor 'Nachte' are anything". For all speakers, Jakobson insisted, "*Nachte* is an independent and direct designation of a concrete plurality" (Jakobson 1978, p. 64).

Jakobson's argument came to dominate the conversation. In 1943 he summed up the concept of the phoneme thusly:

> So the phoneme, this cardinal element on which everything in the linguistic system hinges, stands in contrast to all the other integral parts of this system, and has a completely exceptional and distinctive character, a character which is not to be found in any entity analogous to the phoneme in the other sign systems. There is no entity similar in this respect either in the language of gesture, nor in that of scientific formulae, nor in the symbolism of heraldry, the fine arts, or ritual…. Only the phoneme is a purely differential and contentless sign. The phoneme's sole linguistic content, or more generally its sole semiotic content, is its dissimilarity from all the other phonemes of the given system.
>
> Therefore language, in the narrow sense of the word, is distinguished from other sign systems by the very basis of its constitution. Language is the only system which is composed of elements which are signifiers and yet at the same time signify nothing. Thus the phoneme is the element which is specific to language.… Language (in this sense of being constituted of phonemes) is the most important of the sign systems, it is for us language par excellence, language properly so-called, language tout court, and one might ask whether this special status of phoneme language is not due precisely to the specific character of its components, to the paradoxical character of elements which simultaneously signify and yet are devoid of all meaning. (Jakobson 1978, pp. 66–67)

At this point we can only note the doubleness of this passage: Jakobson insisting that the purely differential quality of the phoneme does not exist anywhere else in language, and at the same time waxing eloquent over the centrality of this quality to the very character of language.

(D) The Sememe As Elementary Particle

As hard as it is to argue with Jakobson's characterization of the phoneme, it is also impossible not to note that it is very nearly an antinomy. How could the differential and negative character of the phoneme be so necessary to the nature of ordinary language, and yet not be expressed at any syntactic or semantic level?

It is pretty much impossible not to misrepresent Jakobson's careful and influential work with the phoneme in any brief summary. As far as I am able to understand it, it represented a brilliant effort to extend Hjelmslev's principle (that any distinc-

tion must be a purely linguistic one, i.e., purely functional in terms of meaning) deep into the details of physical articulation of sounds, proving that these too are culture-dependent. Thus, a 1949 article argued that Serbocroatian phonemes could be coded as combinations of the presence or absence (+ or −) of six distinctive articulatory features, including vocality, nasality, saturation, gravity, continuousness and voicing (Jakobson 1949, p. 421). The point was that in subdividing the phoneme, Jakobson redefined differentiation as binary opposition (thus rendering a possibly complex (paradigmatic) differential as a mathematically simple one), and translated Saussure's principle of arbitrariness into a computational taxonomy.

The advantage of a computational taxonomy was apparent to all, and it reassured everyone that now linguistics was in the mainstream of modern science. As Jakobson said at the end of his article, "Linguistic analysis, with its concept of ultimate phonemic entities, signally converges with modern physics, which has revealed the granular structure of matter as composed of elementary particles" (Jakobson 1949, p. 425). Linguists immediately set out to apply feature analysis to the semantic system. Thus, Eco concluded that just as a phoneme is a "bundle of more analytical distinctive features, … [so] the same internal network of mutually opposed features should also rule the differences between two sememes" (Eco 1976, p. 84).

But by 1955, Jakobson had abandoned Saussure's and Hjelmslev's argument that the differential character of the phoneme did not depend on its phonic substance. With confidence that the whole world's phonemic production could be accounted for by 12 'inherent' features and a few 'prosodic' features, Jakobson was ready to claim universality for his theory of distinctive features as an information-encoding structure which could be merged with mathematical theories of communication structure.

> In reducing the phonemic information contained in the sequence (of phonemes) to the smallest number of alternatives, we find the most economical and consequently the optimal solution; the minimum number of the simplest operations that would suffice to encode and decode the whole message. When analyzing a given language into its ultimate constituents, we seek the smallest set of distinctive oppositions which allows the identification of each phoneme in the messages framed in this language. (Jakobson and Halle 1956, p. 58)

Jakobson's message here is seductive. It may take an effort to remember that "information" in this context does not mean "meaning". It is not to be identified with the 'message' or with anything in Hjelmslev's 'content plane'. Abstracting distinctive features from the redundant and accidental features of a stream of talk is a valid way of quantifying and schematizing the potential for differentiation among phonemes. But as Jakobson insists himself, "the sole information carried by the distinctive feature is its distinctiveness" (Jakobson et al. 1951, §1.3). The structure which generates meaning out of those differentia is still missing. The implication that linguistic meaning inheres in these ultimate constituents, that meaning exists as a universal and inherent binary code built into the structure of ordinary language, is not valid, however much impetus it gave to the ideas of Communication Theory and Artificial Intelligence.

But the real meaning of Jakobson's work here is that we have come to expect the truth of the linguistic structure to lie in some notion of inherent and universal

encodings. Chomsky himself cited Jakobson's universal inventory of phonological features to justify his own reaching for the abstract tenets of a universal grammar (Chomsky 1965, pp. 28–29).

(E) The Failure of the Formalism

Hjelmslev's hope for a "general and exhaustive calculus" of language, then, found its best expression in the Transformational-Generative model of language, which, along with its successors, has dominated linguistic research in America for nearly forty years. In isolating Deep Structure from Surface Structure the new model promised not only to legitimize the isolation of langue as an object of study, but also, in the creation of Transformational Rules, it promised to explain the relationships between language and speech. Transformation Rules, it was held, generated Surface Structures out of Deep Structures without changing meaning.[4] Had Surface Structures stood still for this theoretical relegation of itself to second-class status vis-à-vis Deep Structure, the program would have been a success. But counter-evidence has plagued the program from the outset. Dismissing that evidence as owing merely to performance factors has, for some, reinforced the sense that the Transformation Grammar model (T-G) is a model not of a natural language but an artificial one. The endless debates between Generative Semantics and Interpretive Semantics over which kinds of rules map the syntax onto the semantics (or vice versa) have done little to assuage those doubts.

Nevertheless, the lingering power of the Transformational-Generative model testifies to the appeal of the idea that language may be accounted for as "a system of rules determining the interpretation of its infinitely many sentences" (Chomsky 1965, p. v). This is also testimony to the power of the idea of the computer, whose ability to execute any number of rules in the twinkling of an eye gives rise to one of the most compelling ideas of the contemporary world – Artificial Intelligence. If we could only build Chomsky's competency-rules into electronic machines, they will talk and think. Like willing and competent slaves, they will do our work for us.

The idea that the human mind is like a computer is very appealing, particularly to scientists. Never mind that computers are universally observed to be very good at what human minds are very slow at (number manipulation, for instance), and very slow at what human minds are good at (face recognition, for instance). T-G Grammar, in pretending to define linguistic competence as a set of logical projections (rules), generates a computational language on the premise that it can sooner or later be shown to generate, say, all English sentences and no non-English sentences. In theory, there should be nothing wrong with this: it is in essence merely the idea of the controlled experiment, the necessary procedure of any scientific investigation of a body of phenomena. But no matter how hard artificial languages (within which every term is defined quantitatively as a function of other terms in the system, and

[4] At least after the obvious meaning-changing transformations (questions, imperatives, negatives and passives, etc.) were removed from T-rules and put into P-rules, as suggested by Katz and Postal (1964). See Givon (1979, 9*ff*) for fuller discussion.

every sequence of terms generated by a rule) try to look like natural languages, it is never hard to tell the difference.

The importance of the failure of the T-G model of language to describe ordinary-language performance is not yet fully apparent, though more and more linguists are pointing it out. Talmy Givon's polemical book *On Understanding Grammar*, with which I am sympathetic, describes it as a matter of mistaking formalism for explanation and of gutting the data base to include only rule-generated sentences. The result is an essentially tautological argument with, however, an overpowering authority. Meanwhile, the proponents of Artificial Intelligence are also still there, basking in that authority and still getting grants, despite their failure to get computers to exhibit anything qualitatively like ordinary-language behavior. Machine translation from one language to another, the paradigmatic test of the computer's ability to deal with ordinary languages, though so far not a total failure, has only had success using word-following probabilities rather than rule-based linguistic theory.

I want to conclude this oversimplified and polemical history of linguistics in this century with this fact, noted by many: the question of the semantic structure is still an open question. The theory has not yet been forwarded. While the "double articulation" of Saussure's analysis of the phonology into an "expression plane" and a "content plane" provided what looked in the beginning like a promising model, it was defeated in the battle of methodologies. Leonard Bloomfield, turning language investigation into a form of behavioristic psychology, banished the question of meaning from consideration.[5] As Greimas suggests (Greimas 1983, p. 4), semantics has always been considered a 'poor relation' of linguistics. It has been the one area of discovery that the theory and methods of linguistics as a science have been least able to deal with.

(F) The Missing Semantic Model

If linguistics' own developments rendered impossible or unlikely the development of a theory of meaning in language, I believe the most important development was not the behaviorism of Bloomfield but the formalising of the object of study.[6] In the previous sub-sections I have sketched, over-briefly and with a regrettable polemicism, the history of linguistics in this century as the story of a semiotic being converted to a formalism. This formalizing of the object of study began in Saussure's tactical move to isolate *langue* from *langage* as a set of conventions seen deliberately as an ideal. Though he reminded us several times that the concept of langue exists only by definition, as a useful construct, it has since then been taken as an entity with theoretical, even ontological, status.

This does violence to Saussure's original insight, which was that language is an arbitrary phenomenon within which meaning is wrested out of the differentiation of

[5] [Editors' Note: Caldwell does not identify a specific source in his bibliography. Peter Shillingsburg, however, very reasonably suspects that the text being discussed is Bloomfield's *Language* from 1933.]

[6] Of course the formalism has been criticized, mainly by those who, like me, want to look at speech rather than language. *Cf.* John Searle (1969). For criticisms of the formalism from a formal point of view, see Quine (1972).

any one form from the others. Since for Darwin, the survival of any life-form depended on its ability to differentiate itself from the other inhabitants of the same ecosystem, a fruitful analogy may be seen to exist between 'survival' and 'meaning'. Meaning is born out of struggle: the struggle in the (partly conscious) mind of the speaker to mark, among the available morphological counters, the one most able to articulate the inarticulate bubble of possibility the unconscious proposes. The concept of the differential (as sketched by Saussure and ably defended by Hjelmslev) was essentially a qualitative, pre-scientific, non-quantifiable concept. As treated by Jakobson and Chomsky, it has become an abstract formalism, reducible to logic, quantifiable as a binarism, as formulaic as a rulebook.

This formidable work of Jakobson and Chomsky and all the others is ungainsayable, and I do not mean to take anything away from it. Its theoretical movements have been motivated by good methodological considerations. The only thing to fuss about is that the semantic model is still not available, and practitioners for years now have been reduced to drawing up formal rules for possible semantic models. Thus, Wardhaugh, following Katz and Fodor:

> A speaker's semantic knowledge is no more random than his syntactic knowledge…; therefore, it seems useful to consider the possibility of devising, for semantic knowledge, a set of rules similar in form to the set used to characterize syntactic knowledge. Exactly how such a set of rules should be formulated and exactly what it must explain are to a considerable extent uncertain. At the very least the rules must characterize some sort of norm, the kind of semantic knowledge that an ideal speaker of the language might be said to exhibit in an ideal set of circumstances – in short, his semantic competence. (Wardhaugh 1969, p. 90)

The T-G formalism is so monolithic that despite Wardhaugh's admission of failure, he is quite sure that the semantic model will consist of a set of rules defining an ideal norm. Chomsky likewise assumes the answer is a formalism of some sort (though probably requiring "field properties" in addition to "semantic features") because logic dictates that word meanings must somehow point to the universal contents of a "system of possible concepts".

> First, it is important to determine the universal, language-independent constraints on semantic features – in traditional terms, the system of possible concepts. The very notion "lexical entry" presupposes some sort of fixed, universal vocabulary in terms of which these objects are characterized, just as the notion "phonetic representation" presupposes some sort of universal phonetic theory. (Chomsky 1965, p. 160)

I am not the first to argue, of course, that such presuppositions are unproductive. Most recently, objections have come from Speech Act theorists. Most of the Speech Act theorists who have argued that, however, have in my view also made unproductive assumptions. They do not talk rigorously about parole. They talk poorly about 'communication' and intent, and my own communication theory, that is, the teleology, needs to take both of these carefully into account and distinguish itself from them. There must be another alternative between behaviorism and mentalism.

5.3 Tactics and Assumptions

5.3.1 Tactics: Molecular Sememics As a Theory of Parole

Molecular Sememics means to go back to the original insights of Saussure and Hjelmslev on the question of the arbitrariness of the sign, and move in the other direction from the direction in which they moved. Molecular Sememics, thus, is primarily a theory about parole, and only secondarily a theory about langue. As should be clear by now, this change of direction is based on the perception that perhaps the hasty shift toward viewing language as an idealization, and the avoidance of looking hard at the micro-dynamics of actual speech, steered linguistic investigation away from the data that could have led to an understanding of semantic structure.

Rather than develop a methodology and a formalism fit to describe the properties of an idealized structure, then, we must look for functional terms fit for describing a dynamic process. If the resulting descriptions seem to contradict those of the reigning orthodoxies, they are only the consequence of regarding the questions of language from this point of view. If, for instance, Molecular Sememics seems to deny the notion of language as a system, it is only a consequence of regarding individual speech as prior to language. While the word 'systematic' necessarily and definitionally describes language as an idealized structure, it can only approximately and contingently be applied to language conceived of as a momentary disposition of a great many habitual or conventionalized molecules.

Many aspects of my approach to parole are already familiar to readers of Levi-Strauss' *The Savage Mind* [originally published in French in 1962]. A science of parole is very much a "science of the concrete"; an individual speaker of the sort I will be modeling is very much a *bricoleur*, for whom the act of making meaning is a makeshifty business (Levi-Strauss 1966, pp. 16–22). For Chomsky (and Saussure, in some passages), the individual speaker is taken to be either an idealized possessor of perfect competence (Chomsky 1965, p. 3), or a kind of simplified social unit; one whose speech is simply the mechanical expression of the conventions of the society (Saussure 1959, p. 72). In a theory of parole, however, the individual speaker is quite possibly a native genius – a poet, a philosopher, a child – anyone willing to operate through, but beyond, convention. When such a person speaks or writes, as Levi-Strauss said of the *bricoleur*, he interrogates all the heterogeneous objects of which his treasury is composed to discover what each of them could 'signify' and so contribute to the definition of a set which has yet to materialize but which will ultimately differ from the instrumental set only in "the internal disposition of its parts" (Levi-Strauss 1966, p. 18*ff*).

The theory of parole suggests a similar narrative, revised to include the notion of the molecular sememe. In this version, the 'definition' of the 'set' Levi-Strauss speaks of is the teleology of the sentence engaged in choosing the molecule. The molecule may differ from a purely conventional set precisely in the "internal disposition of its parts". The act of choosing one of the heterogeneous treasures of this molecule executes or marks the molecule's potentiality and thus 'materializes' it.

For the *bricoleur* or myth-maker, to be sure, the materials he puts into new combination are 'pre-constrained' by their previous histories, and so are those of a native speaker in a theory of parole. That is to say, whenever a speaker in the act of speaking proposes a molecule of meaning, it consists, at least vestigially, of lexical items which bring their histories with them. In an ordinary sense this means that they bring their 'meanings' with them, and it is part of what the Standard Theory means by insisting that competence precedes performance. And obviously the new meanings forged out of their new uses are pre-conditioned (if not pre-constrained) by these histories.[7] But these meanings are certainly not given or inherent; they are meanings acquired in their previous molecular engagements.

Take, for instance, the immediate and local meanings of any of the items listed in King Lear's lament to the dead Cordelia:

> "What? A dog, a horse, a rat have life, and thou no breath at all?"

They all depend on their differentiations from each other as counters in the same molecule. When first one and then the others are marked for consideration – with the final consideration going to the fourth counter "thou" (Cordelia herself) – the (asymmetrical) differentials among the terms take on a climactic order, and articulate something none of the terms themselves, bringing merely their histories with them, could have 'meant'.[8] And whatever histories these tokens bring to this encounter, they are surely not taken to be simple denotations of simple animals. These tokens are meaningful here because they bring their various past evaluations with them. These evaluations, I would argue, were given them in previous molecular encounters with other contrastive items.

As for the chicken-and-egg question of which comes first, competence or performance, there is no evidence I can find which convinces without reference to theory first, and then to interpretation. However obvious it is that (for a native speaker) competence makes performance possible, there is also intuitive appeal to the notion that in ontogenetic or phylogenetic terms there must have been a starting place somewhere, in the effort to speak. Molecular Sememics argues that language can begin in the simple juxtaposition of two events and complicate itself from there, according to processes I will suggest below. Thus it can satisfy the requirements for

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[7] And sometimes not pre-constrained very much at all. Take, for example, a conversation in which you ask me, "Where is Princeton?"

"It's in New Jersey", I might say. "Look. Here's New York City" (placing a salt shaker in the middle of the table), "and here's Philadelphia" (placing the pepper shaker two feet distant). "Then Princeton would be here" (marking the spot, more or less between them, with an ash tray).

In this case, the arbitrariness of the sign seems a little more obvious, and it may suggest that the arbitrariness is precisely a lack of necessary relation between previous and present uses. Of course, someone is sure to take the representation of Princeton by means of an ash tray as somehow less than arbitrary.

[8] There is a second molecule here too, in which both members are marked successively: {life/breath}. Again, they take their meanings partly from their own histories, and partly from their juxtaposition here, and the progression is anti-climactic rather than climactic. There is, thus, a counter-movement among the molecules of the sentence which in itself may complicate the total emotional meaning.

a theory of both ontogenetic and phylogenetic evolution without having to posit a 'black box' containing all grammars of all possible languages.

Molecular Sememics argues, in short, that many real considerations are lost in the idealization of langue, and that explanatory theory may not dismiss these considerations as accidental without loss of credibility to the theory. What follows is a list of general operating principles, meant at this point merely to symptomize the kind of approach Molecular Sememics is as opposed to the more familiar structuralist approaches which assume langue to be prior to parole, and competence prior to performance.

5.3.2 Methodological Principles

First, an ordinary language is not an 'encoding system'. It is an articulable medium which lends itself to semiosis. Semiosis is a meaning-making process. This means something analogous to saying that money is an articulable medium which lends itself to the exchange of goods and services, and that this activity is a value-defining process.[9]

To say that language is a 'code' for transmitting a message is to suggest that the message is somehow exterior to the language, and appeals to some universal inventory of concepts, as if logic itself were a universal language.[10] Molecular Sememics, on the other hand, notices that there are many logics, themselves idealized and abstract systems like little artificial languages or isotopies (*Cf*. Greimas 1983), and denies that any one of them could include any (much less all) ordinary languages, or supply a universal inventory of possible concepts.

Furthermore, to say that language is a 'code' implies that speech is a vehicle for the transmission or translation of a message from one form or person to another. In Molecular Sememics, speech is not merely a transmitter of meaning but the dynamic within which meaning comes into being. By the same token, a word is not, usually, a 'container' of meaning.[11] Typically, like a piece on a chessboard, it is a little man

[9] I prefer the term "ordinary language" to the term "natural language", though of course natural language is what I mean. But the term "natural language" has been, ironically, appropriated for use by the formalists, as they look for the linguistic theory whose grammars "correspond to possible human languages" (Jackendoff 1972, p. 12). Clearly, for them, a language has to be possible before it can exist.

[10] Inductive procedures do, as Hjelmslev warned us, frequently invite the hypostasizing of mere generalities, leading to the illusion that all meaning fits somewhere into a gigantic matrix of all possible generalities. When that happens it is easy to assume the legitimacy of abstracting even such distinctions as 'determined' and 'nondetermined' or 'good' and 'bad' into classemes or categories (*Cf* Greimas, 1983, p. 108), thus conveying explanatory authority on attributes that themselves need explaining.

[11] Some words (common names of ordinary things, such as "horse") can forgiveably be thought to 'have' or 'contain' meaning, but it would be more accurate to think of them as tokens, or as things having been assigned an acoustic or visual representation. Thus, the word "horse" will be used as if it were a bit of currency. By analogy to the idea of monetary value, we might say that horses, if

who enters into adversarial or fraternal relationships with others like it, and interacts with them in a dynamic within which meaning is created. Words are devices, or tools, or forms, that are meant to be put to use. Within the molecular sememe, words and morphemes function in their various aspects as names, tokens, counters, and/or markers.

Second, as we are taking the object of study to be parole rather than langue, our method cannot be the construction of a formalism. We may not assume that the differentia of speech must conform to extra-linguistic criteria such as the those of formal logic. Nor must we assume, though speech utilizes acoustic phenomena, that we must look for the basis of meaning among atomic concepts such as distinctive features. Thus, we reject all the paraphernalia of logical systems pretending to be prior to the paradigm. This includes all purely logical operators, all purely definitional fields, domains, and sets, and all formal categories, features, and properties.[12]

As we are taking the object of study to be an operation or a process rather than a body of data, we must also reject the terminology of classification. That is, we may not expect merely to itemize the 'stuff' in a text or a corpus of linguistic behavior, sort facts and catalogue them according to some neutral taxonomy. The reason for this is that we cannot assume that the internal dynamics of language can be adequately described in terms of their products, in the same way we are accustomed to describing other physical or behavioral phenomena. While Saussure has warned us adequately that analysis of parole is impossible because it consists of an incoherent mix of physical, social, and psychological phenomena, the concept of the molecular sememe provides a way of containing those heterogeneous non-linguistic factors within a linguistic dynamic. It is a paradigm within which such phenomena appear orderly. Thus, the assignment of descriptors must follow theory, not precede it. If we selected all-purpose logical descriptors, implying the existence of axiomatic or a priori definitional entities, the data would indeed appear incoherent, as they always have.

In making the first and second points, I of course do not mean to ignore both logic and data. Logic, however, is an operational tool, and is theory-determined; it is relative to its paradigm, and not a universal language within which all analysis must be couched. As for the data-base, appeal to a familiar corpus of speech phenomena or written texts is done on the assumption that it is our best clue to the

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they were all valued the same, could be used as a medium of exchange; but since they are some trouble to move about, we might print up a piece of paper with a picture of a horse on it, and exchange it instead in confidence that it could be treated as having the worth of a horse. In some such sense, the word "horse" is a coin having the 'worth' of a horse, to be put to use in any exchange in which horses might provide a useful currency.

[12] True, there is a difference between 'weak' molecules – say the molecule containing all the possible answers to the question, "Whom are you going to invite to your party?" – and strong molecules, such as that containing all the possible answers to "Are you married?". The difference is measurable, as are the number of terms in the molecule and the degree of contrastiveness among them.

processes by which they came into being, but is not to be insisted on a priori as the exclusive object of study in itself.

As all this perhaps contradictorily implies, Molecular Sememics rejects in general the notion of general principles. In this we appeal to the pragmatism of Peirce, or to a form of it in which all universal laws are seen as generalizations of locally-determined events. Molecular Sememics expresses this epistemological position as an insistence that meaning, too, is always determined locally, not transcendentally. Thus, linguistic analysis should appeal to a molecular logic of wholes and parts. It should seek explanation in local relationships such as: part to part; part to whole; whole to part; and whole to whole, rather than in the categorical logics of induction and reduction.

My insistence on distinguishing molecular contrastiveness from categorical logic will be recognized as kin to the distinction Pike makes between etic and emic structures (*Cf*. Pike 1967, Ch. 2). Especially far-reaching is Pike's argument that etic distinctions can be made prior to the investigation, while emic distinctions must be discovered *in* the object of investigation. This is indeed the source of my argument that the invocation of universal inventories (etic categories) works only for idealized systems, and may indeed create them, rendering the formal analysis of a formal system a merely tautological exercise.

Much of Molecular Sememics, then, is an extension of Pike's work with the notion of emic descriptions. As he says, etic analyses employ "alien" criteria, while emic descriptions employ criteria found within the system. He is exactly right to argue, as did Sapir (1921), that cultural objects like language cannot be understood except from within, because their signs always appear arbitrary to the exterior view. In fact the idea of the molecular sememe is merely Pike's emic structure made axiomatic.

Pike is also, at least approximately, correct to argue that language is a hierarchy of emic systems, not the formalized etic system that Chomsky and others have taken it to be (in fact he sees all human or cultural systems as hierarchies of emic structures). But in my view he does not pursue the implications of emic structures far enough. He does not distinguish between langue and parole, and does not see langue as the result of a conventionalizing process, and thus a badly compromised emic structure. For him, the regularities of syntax indicate the true patterns of emic structures. I see them, on the other hand, as conventionalized rigidifications of true emic structures. Thus, from my point of view, his emic structures are not emic enough.

As these varying interpretations suggest, it is easy to confuse etic and emic structures. By the same token, it is easy to confuse molecular and categorical structures. In both cases, though, we are talking about incompatible epistemological paradigms. A category (an etic structure) is transcendental in that its 'instances' are all 'obedient' to their conceptual, a priori order. A molecule, on the other hand, is a temporary, sometimes fragile and accidental ordering of the differentials existing among its members. If the disparities are great, the number of members will be small and the dynamics strong. If the disparities are few, the number of members may be large and the dynamics weak. A large and weak molecule may well resemble

a category. In any case the molecule will have a name only after it has been conventionalized. If it is found to be useful enough as a convention, it may be accorded structural status. Its distinctive differentiations will then be used as markers in analogous molecules and will naturally enough appear to be 'categorical'.

One of the important developments in European structuralism has been the markedness theory of Trubetzkoy and the Prague School. Jakobson has pushed markedness theory as a further mitigation of Saussure's arbitrariness doctrine, a way to root morphological as well as phonological value in a universal binary code. Markedness theory is an expression of the synthetic ordering characteristic of ordinary language, and is a genuinely important method of investigation. The asymmetry observable between the marked and unmarked terms in a marked pair is characteristic of the molecule, and Molecular Sememics will use the same terms to denote the marked and unmarked counters of a molecule.

Molecular Sememics departs from markedness theory mainly in insisting that there is nothing axiomatic about binary structure. Molecules are often binary, because binary opposition is the simplest and most efficient form of differentiation. But the principle is that of the differential, and there may well be more than two counters. The differential is a qualitative interaction which cannot be reduced to the quantitative logic of binarism.[13]

Finally, Molecular Sememics as a differential-logic theory, while it does not appeal to the structures of logic, does claim compatibility with what is known about brain physiology and the structures of sensory perception. Human hearing and eyesight, for instance, evince high-level discriminatory ability, while the central nervous system provides a highly unified structure for the recognition of tactile and kinesthetic phenomena. To think of speech as a biological phenomenon – as, say, the output half of an environmental-interaction loop (the input half being sensory perception) – renders it quite plausible that language should be structured to take advantage of these twin capabilities, discriminating and synthesizing the discreta of sensory data.

5.3.3 Illustrations

To illustrate some of these reorientations, let me revisit Saussure's famous chessboard analogy. Saussure (1959) used the metaphor to suggest how language could be considered as a synchronic or simultaneous set of relationships as well as a diachronic or linear set of events. One of his intentions was to show how an historical

[13] I submit this axiom with fear and trembling, given the apparently unassailable status binarism has. As A. J. Greimas said in his 1966 *Structural Semantics*, "The elementary structure, considered and described 'in itself', that is, outside of any signifying content, can only be binary, not because of theoretical reasons which have not been elucidated and which have to be rejected at the epistemological level of language, but rather because of the present consensus of linguistics" (1983, p. 25).

act (a move of one piece) could affect the simultaneous relationships among all the pieces. For me, too, the relationship between a single move and the new state of affairs that exists at that moment says something important about the relationship between parole and langue.

Let us say we are in the middle of a game and it is White's turn to move. If White comes to an understanding of the state of affairs, he probably feels that he understands why Black made his last move. He sees whatever threats or opportunities there are. His understanding is expressible as an awareness of the range of possibilities open to him for the next play, and the likely consequences of each possibility. When he has decided how he means to play, he executes his decision by moving a piece, and this act is very much like uttering a sentence.

Chomsky and Transformational-Generative grammarians would describe White's competence to make a move in terms of the sum total of the rules of chess as he has consciously or unconsciously internalized them. Certainly it is possible to formalize these rules, for they are indeed formal rules. Each counter has prescribed rules governing the possibilities of its movement, and all of White's possibilities are formalizable in terms of (i) the rules for each piece and (ii) the location of each piece at this moment. Many structuralists would see the main difference between chess and English merely in the fact that chess has only six different counters, while English has many thousand.

Yet even granting that for a moment, I would argue that the formalist account of the meaning of White's move is unsatisfactory. Though the set of all formal chess rules can predict all of White's possible moves, it cannot predict the actual move White will make, for it has no way to evaluate the conditions which might influence it.

To be sure, there are also a great many tactical considerations which expert chess instructors recommend, and which often take the form of 'rules'. They are not formal but pragmatic; recommendations contingent on local conditions and assuming purposes and intentions. Molecular Sememics would credit such rules as these, and see the 'molecule' of White's possible moves not as all of the formally permissible ones, but a graded set of the few most likely ones. It is tempting to think of the molecule of possibility as having a kind of lenticular shape, through which some possibilities loom large and others recede into the background.

Thus, the molecule is constituted not by the neutral set of White's *possible* moves, but rather by the much smaller, synthetic and dynamic 'molecule' of White's *likely* moves. It is this smaller set that the actual play marks, or executes in the act of being chosen. Thus, when White moves, the meaning of the move belongs to the molecule as marked by the specific play.[14]

[14] As all this implies, I am suggesting that Jakobson's phonemic analyses, no matter how relevant and useful they are to other kinds of inquiry, must be avoided as methodologically misleading with regard to the investigation of parole. As Jakobson admits, "Like musical scales, phonemic patterning is an intervention of culture in nature, an artifact imposing logical rules upon the sound continuum" (1971, p. 475).

Now, as for Black's understanding of White's play, that would seem to depend on the depth of his understanding of chess, i.e., his competence in the language. But this does not mean merely his understanding of the abstract rules of chess; if he misunderstands White's meaning, it will be because he had in his head a different sense of the possibilities the play was selected from than White had.

Furthermore, this misunderstanding may represent a deeper as well as a shallower understanding of the configuration of the chessboard than White's. Black's misunderstanding will register as a different listing of the alternative plays in the molecule, or as a different valuation or ordering of these alternatives. The misunderstanding may be owing to a different point of view or orientation within a larger molecule (say, a strategic molecule: whether one is playing an offensive or defensive game). Whatever the case, Black's reading or misreading of White's 'sentence' is explainable quite precisely in terms of whether and how his constructed molecule differs from White's. And this reading, in turn, will be indicated by Black's molecular sense of his own possibilities, as marked by the move he actually makes.

The 'meaning' of the 'sentence' here, it should be noted, is not to be described in terms of, or identified as, a 'reference' to something outside the chess game, or as an extra-chess 'meaning'. Thus, Molecular Sememics has implications for the debate between realism and nominalism in the following ways:

First, the molecule itself is an interface, or an arena, within which available morphological tokens (legal plays) are matched with imagined results in a condition which permits creativity. But the move itself, occurring analytically and synthetically as the execution of a possibility within a context of choice, satisfies the requirements of 'meaning' even though it is entirely within the language of chess. This suggests a substantial recasting, then, of the problem of meaning conceived as a question about a simple relationship between a signifier and a signified: the signifier does not simply refer to any content outside language, nor does it simply carry a merely assigned meaning. It marks meaning out of the momentary universe of possibility, which itself includes both the world outside language and the creativity of the subject.

Second, while one can describe White's move in English, saying, for instance, "wow, that was an aggressive play", or "he's trying to outflank Black's pawn attack", such interpretations actually employ a metalanguage, as interpretative sentences usually do, and thus may be considered translations. Thus the chess metaphor also suggests what "translation" really means: the employment of analogous molecules in another language, i.e. the sense of somehow marking a 'counterpart' molecule in another language in some way similar to the way the original molecule was marked.[15]

Third, since this procedure can result in very satisfactory translations sometimes (in the most conventional of molecules in closely related languages), there is a widespread intuition that extra-linguistic concepts do exist, and that one-to-one translation is possible. This is an illusion, however, owing merely to the fact that

[15] In this I recognize some accord with Jakobson, who, following Peirce, also recognized a sense in which "interpretation" equals "translation". *Cf.* Jakobson's "A Few Remarks on Peirce" in Jakobson 1980.

some molecules are highly conventionalized, simple polar oppositions ({black/white}, {noir/blanc}). Analogy fades into identity in such cases.

The chess analogy also suggests the idea of the 'teleological structure'. That is, the whole effort of making a move or contributing a sentence to a discourse is a matter of selecting and executing a molecule of possibility. This activity may be aggressive or defensive, in the nature of a question or a negation – there are various rhetorics even in chess. In any case, it is purposive behavior. Thus, it is always possible to distinguish between the presuppositional content of any sentence (those pieces on the board left unmoved) from the assertion (the one piece moved), and in those terms to interpret the meaning of the sentence (the new relationship of all the pieces).

By the same token, when Black moves, he will still leave many of the pieces in their original defensive positions. Pieces that remain unmoved for several turns may be said to be in "deep presupposition". These unmoved pieces are analogous to words mentioned several sentences back, meanings which still have force and still participate in the definition of the molecule. In discourse, however, such meanings have to be renewed and reinforced from time to time, as they do not remain visible as chess pieces do whether they have been moved lately or not. It is for this reason that most of the words in any teleological structure simply refer to meanings already established. In general, there is only one bit of new information asserted in any single clause.

While the chess analogy allows me a vehicle with which to illustrate some of the major differences between the Molecular Sememic paradigm and the standard structuralist paradigm, it is really an analogy for langue, not parole. In chess, all the possibilities are conventionalized already, generated by prescriptive rules. Let me therefore supplement the analogy with another, describing how parole itself might work, as a meaning-creating dynamic, and how langue might be created as the result of a conventionalizing process.

> During a midnight thunderstorm 50 million years ago, I took shelter in a cave. When the sun came up I discovered you there in the cave with me. We exchanged wary glances and retreated to opposite sides of the cave. Then two events occurred. First, I withdrew from my pouch a large biscuit I had brought with me. Next, I split it in two, and gave you half.

I submit this as an exemplary semiotic act, and it can be analyzed as follows:

It doesn't matter whether I have a name for the biscuit. The biscuit itself is whatever it is and there is no need whatever to posit, in order for the biscuit to serve as a symbol or as a repository of meaning, that there be an already defined 'expression plane' and a 'content plane' of language. What we do with it next will define those things.

The biscuit also belongs to experience or to reality, and not to language. But it of course already has meaning; it has already been used in linguistic exchanges, though we do not speak any language in common and do not know each other's word for it. We both recognize the biscuit as having a value in human culture: that is, we know it as something to eat. We are hungry. The biscuit belongs to me, not you. The biscuit is of a certain size relative to our hunger, large enough or not large enough

to satisfy one person or two. The biscuit is or is not mouth-watering, flaky, filled with tasty fruit filling, or covered with sesame seeds. The biscuit, in short, is a complex, highly synthetic (hypostatic) entity. The biscuit has many physical qualities which may or may not become relevant to the semiotic act in which it will participate, depending on what happens next. In this respect, the biscuit is like any other word, thing, token, icon, or counter: it is what it is, but there's no telling what it is going to be used for.

Now I tear the biscuit in two, offer one half to you. There are now two half-biscuits. There are two entities here which are like the first entity in some respects and not like it in other respects, and there are relationships among these respects. Two events here, diachronically ordered, have created structures of sameness and difference. One entity has now been 'defined' as a 'left-half-biscuit' or a 'my-half-biscuit', whereas the other is a 'right-half-biscuit' or a 'your-half-biscuit'. Most of the qualities of the half-biscuits are the same as those of the whole biscuit, but difference has brought into being some meanings that are not explainable as biscuit qualities. The crucial idea for my purposes is that a unit of meaning now exists, which we can call a molecule. One of the molecules means {left/right} or {your/my}, even though we have no words for these concepts, and even though there is no universal inventory of concepts to supply them. These units of meaning are created by sameness/difference within which each counter defines itself (locally and for the moment) by maximizing the differences from the other. Over time, this process will also supply a sense of the respects within which these differentia have been experienced.[16]

As time goes on, similar events may reinforce or revise the notion of {your/my}. If your hunting companion shows up we may have to think of {your/my/his} biscuit, in which case all of these potential counters will shift meaning ever so slightly. If our friendship is durable we may later commemorate the event by carving a picture of a halved biscuit on a piece of wood and putting it on the wall in the cave. Then it will be a token itself, and the word for biscuit may be also become the word for "friendship", or "share", or "morning-after-the-night-of-the-thunderstorm". If it's as successful as Proust's madelaine, it will accrue books and books of meanings.

This story, then, is a story of how one biscuit, as it enters into two events and is seen in two forms, participates in a molecular dynamic in which samenesses and differences define themselves. It becomes the arena in which a multiplicity of meanings come to be known: my, your, his, share, friendship, and so on.

There is one more point to make by way of exploiting this metaphor, before I go on to document some actual cases. As an entity, the molecule is not a thing itself but a structure. Furthermore it is an emergent entity, the momentary resultant of underlying structures, perceptual ones, which make possible ongoing identifications

[16] In a Peircean analysis of the meaning of the biscuit, much would be made of the "respect" in which the sign stands to mean something to someone. There are many affinities between the Peircean semeiotic and Molecular Sememics; one of the more intriguing is the similarity in role between the molecule and Peirce's interpretant.

of sameness and difference.[17] It is, I think, very startling and exciting to notice that the molecule does not come to be as the result of an act of naming; it has to exist prior to that act. It arises out of a series of at least two events which give rise to perceptions of continuity and difference. Thus, meaning begins in perception, and is an expression of the human mind's simplest synthetic and analytic operations – the perceptions of sameness and difference.

5.4 Qualities of the Sememe

I have described the molecular sememe as a particular kind of paradigmatic series, existing as a momentary set of present and absent counters at a point of focus in an utterance. I have also characterized it as a kind of arena, within whose dynamic available morphological materials enter into temporary and asymmetrical relationships which articulate the materials of experience. It is time now to pursue the concept of the molecular sememe on theoretical and practical planes, and to suggest some of its implications for questions in linguistics (particularly syntax and semantics), rhetoric (formulaic expressions and tropes) and epistemology (nominalism vs. realism).

5.4.1 The Sememe As Macrostructure

In asserting that a macrostructure, the molecular sememe, is the fundamental unit of meaning, I am disobeying a cardinal tenet of structural analysis, which requires explaining all phenomena as strategic or fortuitous combinations of elementary particles. As Greimas put it, "Only the postulation of the anteriority of the semic structures to their multiple sememic manifestations in discourse renders possible the structural analysis of content" (Greimas 1983, p. 63). Both Jakobson in phonology and Greimas in semantics reduce the object of analysis (the phoneme for Jakobson and the sememe for Greimas) to bundles of "distinctive features" or "semes", themselves belonging to a universal inventory of logically possible items.

Even if it were plausible to assume the anterior existence of Greimas' universal inventory of possible "semes" or meanings,[18] the structures through which the

[17] In the tradition of much linguistic research, we should perhaps itemize and catalog the discreta of sensory perception as a binary code of distinctive perceptual features. But while it is important to realize that molecules and perceptions are both macro-structures, and that they are made of a great many sensory discreta of many kinds, it is not relevant to a theory of meaning or perception to itemize them.

[18] The prima facie implausibility of this assumption has not, however, prevented it from becoming an apparently axiomatic part of the scientific method as it applies to linguistics. Such legitimacy as it has stems mainly from the work of Jakobson, whose "universal inventory" of distinctive phonological features has the virtues of being relatable to physical (i.e. acoustic) phenomena, and of

permutations of "semes" and "classemes" explain the meanings of texts are a long way from clear. Jonathan Culler's (1975, Ch. 4) description of Greimas' system, while it does not criticize the theory of semic analysis, clearly shows the failure of the theory to explain the semantic contents of ordinary sentences. The gap between linguistics and literary criticism remains very wide.

5.4.2 The Sememe Belongs to Parole

In 1965 Chomsky said, "There seems to be little reason to question the traditional view that investigation of performance (parole) will proceed only so far as understanding of underlying competence (langue) permits" (p. 10). The molecular sememe, however, belongs theoretically to parole, and not to langue. Molecular Sememics asserts that meaning is created in a momentary dynamic created by the possibilities of a single sentence in the act of being spoken or written. It is only when this molecule of meaning is recognized as being significant enough to repeat that it might be taken to heart in a speech community and conventionalized, through repetition, to the status of common currency.

It may seem odd of me to insist that the molecule exists only momentarily, as a set of choices existing for a single sentence only, when in fact most semantic choices seem to be simple, binary, and fixed. Thus, to the question, "has your son gotten back from his trip?" we would expect an answer in the form {yes/no}. Indeed, as long as we assume that the conventional formulations of langue indeed express the underlying rules, we are likely to assume simplicity, binariness and determination to be characteristic of the system. But if we are willing to entertain the individual monkey-business (not to say real creativity) of actual speakers, we may find sources not only of the convention fixities, but also of the pressures toward change. Take a simple dialogue, for example:

Orderly: You know that bottle of hydrogen peroxide in the supply closet?
Nurse: What about it?
Orderly: It's out.

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being a short list. Chomsky slides quite easily from Jakobson's "substantive universals" to his own "formal universals" (1965, pp. 28–32), and becomes the first thinker in 200 years to propose innate ideas once again. Greimas, who claims to oppose such formalism, seems embarrassed to defend his own assumption: "The *a priori* nature of the simple hypothesis characterizes all scientific research: the objection that it introduces a subjective element in the description is not, in principle, valid" (1983, p. 36). That a universal inventory of possible meanings (semes) should consist of, say, 'durativity' or 'relative quantity' or 'laterality' does not suggest that the list will be short. What it suggests is that Hjelmslev is right: such inductive method "inevitably leads to the abstraction of concepts which are then hypostatized as real" (1961, p. 12). Thus, the semic inventory amounts merely to an incomplete nominalism, whose circle can't be closed.

Here is a clear-cut bit of discourse: its topic is clearly pointed out, and its comment is as clearly marked as the molecular term. What, then, does "out" mean?

Orthodox structural semantics such as that of Greimas would analyze the sememe "out" as consisting of a bundle of semes which differentiate it from its binary opponent, "in". Or perhaps the "classemes" belonging to the "isotopy" or context of talk about hydrogen peroxide bottles would interact with those semes to provide the contextual meaning of the word "out". Is there any seme necessary to this isotopy that could tell us that the true opponent is not "in" but "full"?[19]

Let's leave aside for the moment the question of how we 'know' this. Our concern here is what meaning we get, and how that meaning is generated. Molecular Sememics sees the local and immediate meaning of the molecular term as the object of inquiry. This meaning is defined in the struggle between itself and the other possible members of the molecule, seen here as all probable answers to the question, "What about it?"[20]

Now, we might see that molecule as a simple binary opposition, "It's {full/out}". If we take that to be the case, we understand instantly that "out" is a variant of the usual opponent to "full" and therefore 'means' the same thing as "empty". But if it is really that simple, why didn't the orderly say "empty"? Is it part of his conscious choice to prefer "out" to "empty"? Clearly, any estimate of the speaker's 'intention' would have to estimate, first, how conscious he was of his choices. Suppose, as critical listeners to the discourse, we consciously try to complicate the molecule by specifying other possible members:

Orderly: ("It's not there."
"It's full."
"It's gone."
"It's out."
"It's empty.")

At this point it seems easy to say that if the orderly were as conscious of the intentional structure of his utterance as our speculations have made us, then he intended some very precise nuances of meaning: he did not mean that the hydrogen peroxide bottle had been lost ("It's not there") or stolen ("It's gone"). If he

[19] Its opposite may be "full" in an etic sense, but its counter in the molecule is something for which there is no single word: "there's enough hydrogen peroxide for the orderly's use".

[20] It may be instructive to note that for the speaker, the molecule consists of all possibilities that to him appear possible within the logic of his isotopy. For the listener, the molecule must consist of the possibilities that appear probable, within what he guesses the isotopy must be. Needless to say, the speaker and listener may be thinking, however unconsciously, of different sets of possibilities, and/or of different rankings of the items in those sets. This is a source, obviously, of error in interpretation. And there of course is always the likelihood that the molecule, both for the speaker and the listener, partly consists of unspecified contents. To this extent both speaker and listener are unconscious of the means by which they arrive at their intentions (speaker) and interpretations (listener).

consciously meant "out" rather than "empty", then his mind is subtler than my own, because I can't see the difference myself between "out" and "empty".

And in truth, I would not look too hard for a semantic difference between "out" and "empty". More likely it is simply that within the same isotopy (itself a molecule), language such as "The bottle is full" and "We are out of hydrogen peroxide" is familiar, establishing the two terms as approximately legitimate opponents.[21] The molecule is also asymmetrical. That is, "It's out" contrasts more obviously with some of the counters in the molecules than with others. It might be better therefore, in the spirit of binary analyses, to rank and hierarchize these oppositions:

"It's out" vs. "It's full"
vs. "It's not there"
vs. "It's gone"

Mainly, then, "out" means what it means in this discourse by contrast to "full". But the question of what other counters exist in the molecule is a matter of culture, language, and local expectations. Of course it may be simply that the utterance is not especially well-formed and that the speaker's sense of the possibilities was gross, conventional, and careless.

The molecule, then, is the arena within which the world influences language. That is, the shape of the molecule represents the way morphological possibilities have to arrange themselves in order to approximate the real-life choice.

5.5 Teleological Structures

To most linguists, as well as ordinary people, 'sentence structure' is expressed by what Transformational-Generative grammarians call base rules, within which a rule such as the following would have axiomatic priority:

$$\text{Sentence}\,(\text{S}) \rightarrow \text{Noun Phrase}\,(\text{NP}) + \text{Verb Phrase}\,(\text{VP})$$

Under this rule would come other rules for NP and VP, and their constituents would follow in hierarchical order. Thus, 'tree diagrams' would describe the hierarchically ordered divisions of each unit into their immediate constituents. But consider a sentence such as:

Three hundred of the world's largest banks have headquarters.

[21] We are accustomed to thinking of the syntactic and semantic components of language as existing on two planes, 90 degrees away from each other. Thus, we expect any terms which can be substituted for each other to be alike on at least one plane, even if they differ on another. Here, though, are two terms which seem to be opposites on the semantic plane, yet aren't quite parallel to each other on the syntactic plane. There is more indeterminacy in the system than structuralists have typically thought.

Clearly its structure satisfies the base rules. It is unarguably grammatical according to the standard theory. Yet it seems incomplete or anomalous as a message without a final prepositional phrase:

Three hundred of the world's largest banks have headquarters in New York City.

This prepositional phrase would have a very low rank in the hierarchy of a tree diagram, but it is obviously important in terms of the communicative purpose of the sentence. Evidently there is a very low correlation between syntactic rank and communicative importance; and in recent years speech-act theorists have analyzed such discrepancies, and have argued, convincingly, that other rankings of syntactic elements may be necessary.

Rather than speak of 'sentences' I will speak of 'teleological structures'. These are structures which satisfy the listener's desire to hear something that makes sense to him within a real-world context. A sentence in my sense is a teleological structure, or consists of several of them, more or less hierarchically arranged. A well formed teleological structure arouses and satisfies an expectation in the listener to find out something about something. That means he must have, as various linguists have variously put it, background *and* foreground information, something *asserted* as well as oriented; something claimed as well as something mentioned, something *new* provided as well as its context in something old and presupposed. Furthermore, we must be able to tell which is which, and know the rhetorical elements which tell us.

Thus, it should be easy – relatively, at least – to distinguish the marked term of the molecular sememe in the following examples:

1. Did you say you wanted me to get milk at the store?
2. Have you written Marge to say why you aren't going to the reunion?
3. What color are you going to paint the ceiling? Pink?
4. Yesterday we were told that the President would be in Chattanooga on the twelfth.
5. This week's issue of the magazine has international appeal.

There are some difficulties, however. For one thing, we cannot hear the speaker's voice inflection on the printed page, and so might mistake the intention of, say, example (2). Depending on what assumption the hearer made about the intention of the speaker, he might respond in the following variety of ways.

(Q) Have you written Marge to say why you aren't going to the reunion?

(A1) No, I haven't told her why.
(A2) No, but I called her.
(A3) No, I decided to go after all.
(A4) No. I don't owe her any explanation.
(A5) No.
(A6) What are we having for supper?
(A7) Yes.

Answer 1 assumes the speaker meant to focus on the word "why". This word "why" is itself the designator of a molecule of possibilities – a 'molecule' of the possible

answers to the question. Answer 2 assumes the speaker meant to query the word "write", whereas answer 3 assumes that the focus is on "aren't going…". Answer 4 assumes focus on "to say why…", while answer 5 assumes focus on the whole question, "have you…?". Answer 6, though, assumes focus on the *whole* utterance, judging by the refusal even to acknowledge it was uttered. Yet answer 7, interestingly enough, answers the question "have you written" and at the same time answers all the other questions too, which itself implies that there is a hierarchical order, such that the verb can, in the positive sentence, subsume all the lesser questions.

What does this analysis suggest? First, that as a question it is really many questions, each putting focus on differing bits of information. This indicates that it is not simply the sentence that contains a single molecular sememe, but rather the teleological structure itself; and there may be several of those in a single sentence. Very likely, though, they are hierarchically organized, and their rankings could be spelled out on something like an Immediate Constituent tree diagram:

Have you written Marge to say why you aren't going to the reunion?

You	| write	| Marge
| have	| to say	| why
	| you	| going
	| not	| to reunion
		| the

Thus, the sentence is really a hierarchy of teleological structures, each embedded within others, and each one of which contains one molecular sememe. It may not be easy, however, to tell in which order the hierarchy best illustrates itself.

0.	(May I ask you this?)	{yes/no}
1.	Who invited you?	{Marge/_____}?
2.	Where did she invite you to go?	To a {reunion/ _____}?
3.	Are you going?	{yes/no}
4.	Did you tell her?	{yes/no}
5.	Did you tell her why?	{yes/no}
6.	Did you write her?	{write/_____}?

If this is the correct order, it is worth noticing that it gives priority not to the fundamental syntactic order of the sentence but nearly the opposite.

I have described the molecular sememe as a particular kind of paradigmatic series occurring at the point of assertion or focus of a teleological structure. A teleological structure is an expression of intention, and it is ordered as a structure whose business it is to select and execute a molecular sememe. As a phenomenon of parole, the molecular sememe exists in the utterances of actual human beings who are motivated to say what they say, and may seem to disappear in certain examples of hypothetical English proposed merely to illustrate, for example, grammatical features or word usage. Rhetorically structured utterances, on the other hand, are typically structured precisely to give expression to motivation – to the need and intent of the utterance in the psychology of the speaker.

Part II
The Applications

Chapter 6
The Molecular Sememe: A Model for Literary Interpretation

In this paper I propose to describe, in brief, a semiotic paradigm which results from the re-definition of the linguistic sign as a molecular sememe. Borrowing a tactic from Wittgenstein, I wish to use the game of chess as an analogy for the sake of describing what a molecular sememe is. Then I hope to use it further to sketch several implications of this semiotic paradigm for literary criticism and critical theory.

The fundamental unit of meaning in language, the sememe, in this view, is not a word, a morpheme, a phoneme, or (even smaller) a 'semantic feature'. Rather, it is a larger synthetic structure – the small 'molecule' of possible counters from which one is chosen at any salient decision-point in the creation of an utterance.

Ludwig Wittgenstein, in the *Philosophical Investigations*, compared a word to a chess piece (Wittgenstein §108). In doing so he meant to emphasize the word as something *used*: as do I. But rather than saying a word is a chess piece, I'd rather say that a word is analogous to a 'move' in chess. At the same time, *meaning* does not belong to the word itself, or to the move itself, but to the *move in context* in an actual game. To put it more precisely: the meaning of any move is created in its contrast to whatever other moves one could have made at that point in the game. This small set of possible moves, itself dictated by the whole previous course of the game, is what I call the "molecule". Meaning, then, belongs to the molecule of possible moves, as it is marked by the particular move one makes.

I call this molecule the "sememe" because it is the unit of meaning. What do we mean by "meaning"? Let's be vague about it for the moment. Whether he can *say* it or not, any knowledgeable kibitzer at the chess game will understand its meaning. Meaning here is the whole complex of implication for the opponent's next move. In language, the implications of any word chosen at any decision-point in the discourse might be equally difficult to articulate. So let's not try to narrow its sense here: an inclusive sense will do, one which includes reference, syntactic value, logical implication, illocutionary force, metaphor, and emotional import.

How does this 'molecule' work? Everyone has noticed how, on a clean surface, water will bead up in a coherent droplet. A few specks of dust, when dropped onto the surface, will instantly move as far away from each other as possible. I don't

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know whether this behavior is a function of electrical charges or surface tension, but the bits of dust will maximize the distances among themselves. So, too, I argue, signs and meanings, whenever they are brought into a local relationship, distinguish themselves from each other as well as they can. I argue that this phenomenon is a fundamental semiotic fact. It underlies the power of contrastive sets and gives meaning to the differential that has been important to structuralist linguistics since Ferdinand de Saussure first proposed it (Saussure 1959).

I realize that structuralism is now widely considered to have been a failure in predicting linguistic structures, even though the concept of the contrastive meaning has been influential in structuralist criticism, especially in Europe – witness the work of Levi-Strauss, Roland Barthes, Michel Foucault, Julia Kristeva and others. The concept of language as a set of arbitrary and shifting relationships between the 'expression plane' and 'content plane', on which no individual has any influence, is famous enough not to need elaboration here.

But if this is the case, why did structuralism fail to make the principle of the differential generate all the structures of language? I have tried to answer this more fully elsewhere,[1] but the short answer is that structuralists following Saussure believed too strongly in the notion of la langue as in itself the principle of order. For instance, all phonemes were said to have meaning in their difference from all other phonemes; by implication, it was hoped that morphemes too would prove to have meaning by their difference from all other morphemes. In short, Saussure failed to prove his idea of order – not, as Jakobson insisted, because he failed to recognize that morphemes have positive and durable meanings of their own (Jakobson 1978, p. 66), but because he looked for it on the wrong scale. He expected his principle of order, the concept of la langue, to determine individual speech by the operation of a single, large-scale system.

Of course we all believe that the fundamental principles, whatever they are, must be universal and large. The Molecular Sememe, however, argues for the principle of a local order operating on a small scale, and within the momentary dynamics of speech rather than in the large structures of language. The molecular sememe is a small whole, a tiny universe, a momentary order possessing both a differential and a coherence. Furthermore, it is a complex whole, in which highly subtle nuances of difference are to be recognized, but only among a few (typically two or three) foregrounded choices at a time.[2] Such a structure is consistent with what has been described as the "bottleneck of attention", and could also express the Gestaltisch qualities which have been observed to pattern human perception. If it can also be shown to be a basis on which an ordinary language could be described, it could allow us to make the so-far elusive connections between language and sense-perception, neurology and psychology, and help put the aims of Cognitive Linguistics on a solid footing.

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[1] Caldwell 1989, pp. 65–86. [Reprinted here in its final form as Chapter 2 – Eds.]

[2] In contrastive sentences, at least. There are other kinds of sentences, and other configurations of molecules.

I have spent a lot of time trying to do that. My purpose here, though, is to suggest some implications of this paradigm for literary criticism. Literary creation, as Wittgenstein suggested, is a game-playing activity. In discourse, as in chess, the moves are chronologically ordered, and each move stands in presupposition to all the moves which come after it. In chess, the configuration of the board is available to our inspection at any time; this configuration is a record of all the previous moves which, in their collective and hierarchical presupposition, constitute the context within which the next move, like the next sentence, has its meaning. If we are familiar with the conventions of chess or of discourse, we may be able to know whether we are, say, into the endgame, or which of many familiar gambits has been used. Still, in both chess and discourse, the intentions of the players and their game plans must be inferred.

Now let's take a closer look at what we mean by a "move", and what we mean by the "context" within which that move has meaning. First, "context". In a chess game, context for any next move is quite literally manifested in the present configuration of the board, which is, itself, an expression of all the presuppositions that affect the next move. In chess, you could make a list of these presuppositions, and it would be equivalent to a list of all the previous configurations of the board. The pieces on the board which haven't been moved in a long time, in effect, stand in 'deep presupposition', while the pieces that have been recently moved stand in 'immediate presupposition' to the next move. Since the 'moves' in chess are not only chronologically ordered, but still recorded in the situation of the board, the 'hierarchies of presupposition' ought, in principle, to be discoverable.

Now, what do we mean by a "move"? It consists of two elements: first, the 'hierarchy of presupposition' acts to select a set of possible next moves. But before I can make a move, I have to guess the meaning of my opponent's last move. That move is recorded on the board, and that move plus all the previous moves all stand as a hierarchical order of presuppositions, all of which dictate what I can and cannot do next. The set of possible moves dictated by those presuppositions (and informed by my game plan) is called the molecule; the action of all those presuppositions to dictate the alternatives included in this molecule, I call the "molecule selection structure". Once the molecule is constituted, all that is left is to select one of those possibilities, and thus "execute" the molecule. Thus a 'move' is really a "molecule-selection-and-execution structure", or what I call an MSES. We can describe text, then, or discourse, as an overlapping order of MSES's in which a molecule executed in one move takes its place in the hierarchy of presupposition which enables the selection of the next molecule.

What are the implications of all this for literary criticism and critical theory?

The model suggests a way to clarify the problem of interpretation. The problem is that meaning belongs to the molecule, and not to the word, when we cannot know for certain what other, unstated terms the molecule contains. All we have is the stated term; that term means what it means by contrast to the other terms in the

molecule, but we cannot know for certain what they are. It makes a big difference, for example, when we hear the word "strike", whether the molecule is {strike/ball} or {strike/stroke}, or {strike/go back to work}, or {strike/retreat}. The molecule as the writer (or speaker) constructs it represents the writer's (or speaker's) *intention*. The molecule as the reader (or hearer) reconstructs it represents the reader's *interpretation*. In both cases, the molecules are selected by a whole hierarchy of presuppositions, not all of which are in the text, and which include the place and time of writing or reading. Thus there is as much good reason in examining the readers' assumptions – as reader-response criticism insists – as there is in searching for historical evidence of the writer's intentions.

Nevertheless, historical criticism is possible. Among some post-structuralists, deconstructionists and reader-response critics, the only conclusion that seems possible is a total relativism in which every effort to read the past is seen as merely an imposition on the past of the categories of the present. This is a consequence of the arbitrariness doctrine of Saussurian structuralism, and a post-structuralist recognition that the slippage between the "expression plane" of language and the "content plane" is total. Molecular Sememics recognizes, however, that the language is not a single system, and that very often the text itself contains, within its hierarchy of MSES's, evidence of every molecule's missing terms.

Or perhaps the information is contained in literary conventions outside the text. I remember being puzzled for a long time by Emily Dickinson's wonderful poem which begins, "I heard a fly buzz when I died". Someone pointed out to me that there was a convention in nineteenth century novels – *Uncle Tom's Cabin* is one – of obligatory and beatific death-bed scenes, in which the dying person has an epiphany in which Jesus calls her to heaven. In other words, had Emily Dickinson been evoking the conventional deathbed scene, she would have begun the poem with lines like

I heard the chariots coming when I died

or

I heard the bells a-ringing when I died

or

I heard the angels singing when I died.

And if we think of such lines as these constituting the 'molecule' of possible first lines for her poem, then we feel we 'know' what she means when we hear her say, "I heard a fly buzz when I died". For the line means what it means by its contrast to those other lines. Of course the process of reconstructing those molecules is partly guesswork and never certain; but it provides a method for the effort to place the poem in historical and cultural context, as the 'new historicism' has argued.

The 'death of the author' has been grossly exaggerated. His demise is another post-structuralist conclusion drawn from Saussure's argument that The Language is a monolithic structure which cannot be influenced by any single individual; thus,

they say, it is more true that the language 'speaks us' than that we speak the language. But the model of the molecular sememe reminds us that language is not a single monolithic structure. Language, as Saussure knew, though his followers forgot, is merely a set of habits and conventions. It is, to be more precise, a conventionalized and compromised collocation of fossilized molecules, capable of enabling anyone to think he can think. And to that extent the post-structuralists are right. But at the level of individual speech, the molecule is dynamic and alive: the creative user of language can make new molecules, or at least mark old ones in different ways, and is not totally at the mercy of the system. Shakespeare, for instance, was good at creating new molecules: that is, he was able to make molecules which had never contained precisely those counters before. And by putting them in dynamic contrast to each other for the first time, he justified Shelley's argument that poets are the "unacknowledged legislators of the world" in that they (sometimes) do actually create the meanings by which we live our lives.

'Deconstruction' is a legitimate enterprise, but its implications are sometimes very unfair. What makes deconstruction possible is the recognition that meaning belongs to the molecule as a whole, not solely to the selected term. The critic can therefore 'rewrite' the text by deliberately selecting the unmarked terms rather than the marked ones, and legitimately claim to be 'deconstructing' the text. The immediate result will sometimes seem to turn the writer's explicit meaning on its head. Does that reveal the true motives the writer was trying to avoid admitting? Sometimes. In fact every term's counter-meanings are always involved in the meaning of the term, and deconstructionist techniques have been a powerful means of illustrating that principle. Among the so-called post-colonialists engaged in cultural criticism, every writer, it seems, is accused of resisting or hiding his 'situatedness' in a set of racist, sexist, and classist assumptions. However, it is also true that the writer has as good a chance of knowing what those counter-meanings are as the critic.

Postmodernism's discovery of the "total indeterminacy" of the text is also a gross exaggeration. Total indeterminacy would require a total lack of coherence among the molecules of a text. It would be more accurate to say that as a writer, I can decide how much determinacy I will build into the text. I can do that by building greater or lesser degrees of consistency and redundancy in the molecules I construct. If I am writing an essay, I will create a lot of redundancy because I want to achieve clarity of thought; if I am writing a story I may well build in indeterminacy because I want to achieve opacity, a sense of the real as beyond easy reduction. A story fails when its events seem merely illustrations of a thesis, every incident consistent with a single narrative or thematic line.

A critic, on the other hand, surely has, as one of his tasks, to estimate the degree of determinacy the text contains. If there is little, he cannot be confident of a single thematic interpretation. The writer is trying to create a world, not get across an idea. Many of the missing terms of his molecules may be in that world, then, not in the text, and so the story will not have the kind of explicit verbal consistency and redundancy that an essay ought to have.

To illustrate at least some of these points, let me choose a passage, say, a speech by Hamlet:

> How all occasions do inform against me,
> And spur my dull revenge! What is a man,
> If his chief good and market of his time
> Be but to sleep and feed?

If we estimate the amount of indeterminacy there is in this speech, I'd say there is quite a lot. But let's look at the obviously interesting words: "inform", "spur", "chief good and market", "sleep and feed". Is it possible to reconstruct the molecules these terms mark?

One way to do this is to imagine a molecule-selection structure such as

> How all occasions do _____ against me

and try to guess what words could fill the molecule defined there. With no knowledge of the selected word I'd probably guess words such as "tell" or "press in", or "work". These terms are unlikely to have ever existed in the same molecule before. In fact, the term chosen could link several wholly different molecules, such as {inform/tell} and {inform/impress} and {exert pressure/work}. Thus the richness of significant ambiguity is created by Shakespeare's using a complex molecular structure: as a result, the single word "inform" also evokes all the others as unmarked potentials. Thus, it means something like to "tell on" or to "slander" or to "put pressure on" and "to influence", all at the same time.

By a similar process, we can see how the molecular structure makes "market" mean "use" and "service" and "value" at the same time. The word "market" suggests a molecule of economics terms in which words like "goods and services" exist, items which can be traded for the wherewithal to "sleep and feed". Thus "market" also suggests, in varying molecular relations, words like "services" or "value".

In short, I submit that the Molecular Sememics paradigm can help explain how new meanings are created by special and controlled contexts. The molecular principle means that local options are available at every turn, and we are *not* in fact limited to the determination of some monolithic notion of The Language.

To put it another way, Molecular Sememics argues that creativity is indeed possible. Creativity of the most profound kind occurs even in the most immediate and local inventions of ordinary people in everyday speech.

Chapter 7
The Rhetoric of Plain Fact: Stevens' "No Possum, No Sop, No Taters"

> The poem is the cry of its occasion,
> Part of the res itself and not about it. ("An Ordinary Evening in New Haven" XII 1–2)

Metaphysicians have often been called mere poets, especially by the logical positivists of the early years of this century. It is generally assumed that poetry is unable to constitute the real, that logocentric theories are fallacious. In such an atmosphere, it is not often that a poet tries to address ontological questions. Wallace Stevens is an exception to the rule, at least in that he tried to explore the limits of how words behave in either constituting or evading the barest sense of fact. In doing so he was not exploring logic or ontology as a *subject*; but at the level of his experimentation, it is hard to tell whether he is unbuttoning and rebuttoning the very ontology of language, or merely the most fundamental structures of rhetoric.

Stevens' great poem about the poetry of ordinary things is "An Ordinary Evening in New Haven", which contains the lines I have used in the epigraph. Here, as he had often done before, Stevens approached a "plain sense of things", wanting to "purge [him]self of anything false".[1] Those who are familiar with Stevens' poetical/epistemological seasons know that this is a wintertime desire: in spring and summer, nature is too boisterous, changeable, multifarious, or overwhelming to be seen with the accuracy required. In midwinter, nature shrinks – sometimes to an accessible stillness, but also, sometimes, to a baffling nothingness, or to the stasis of pure abstraction. When that happens, at the still-point of midwinter, reality collapses into something anti-poetic and unsatisfactory – a rigidity of thought in which the imagination has no part.

Now, this problem has usually been seen by critics not as if it were a problem for poetry, practically speaking, but either as a psychological problem for the poet himself or as an unfortunate metaphysical-epistemological condition in the poet's world. Frank Kermode suggests that:

[1] Or so he wrote to Bernard Heringman, then a graduate student at Columbia (Stevens 1966, p. 636).

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> Such a moment, of unattainable absolute zero, is anyways only to be imagined as a phase in a cyclical process. Language, always metaphorical, falsifies the icy diagram; only when that desire is satisfied do we grow tired of summer lushness and welcome the fall and winter again. So the plain sense continually suffers change, and if it did not it would grow rigid and absurd. It must change or it will simply belong "to our more vestigial states of mind". (Kermode, 1986, p. 180)

Kermode sees it as a problem of nothingness, as a kind of ontological zero in the face of which nothing can be understood. This perception of nothingness is so discouraging from a humanistic perspective that we almost demand to see it as merely a point in a cycle, a fact which (like death) ought to be subsumed under a sense of the continuation of the cycle, the ongoingness of life and more easily perceived phenomena. Certainly there is much in Stevens' poetry which appeals exactly to this essentially romantic faith.

But just as often, Stevens spoke of this sense of nothingness as if it were a problem of understanding or knowledge, a lack that could be satisfied by some correct use of words.[2] He often, and brilliantly, tried to satisfy this lack through metaphor: in "The Plain Sense of Things" he spoke of the null point as the sense that "the greenhouse never so badly needed paint", as the "silence of a rat come out to see". Yet he also recognized that metaphor can evade or falsify the truth. In "Ordinary Evening", for instance, he said,

> We seek
> The poem of pure reality, untouched
> By trope or deviation, straight to the word,
> Straight to the transfixing object, to the object
> At the exactest point at which it is itself. (IX: 3–7)

In part, the question of whether to permit metaphor or not is a question of whether to recognize the imagination as essential to perception or not. This is essentially a question of whether to admit a romantic epistemology or not, a question as relevant today as it was in his time.[3] For Stevens, who was forever ambivalent on this question, the task became not merely a problem of epistemological theory; rather, it became a practical rhetorical problem, a problem of trying to strip away the constant evasions, of trying to make the poem constitute a real form of experience itself, not merely a derivation or an explanation of it. Throughout his career, Stevens experimentally reconstructed language in as many ways as he could, exploring its most fundamental structures and trying to understand whether its evasions were avoidable or compensable. In "No Possum, No Sop, No Taters", we can see some of his

[2] An excellent discussion of the issue of nothingness and the rhetoric of negation is to be found in Barbara M. Fisher, *Wallace Stevens: The Intensest Rendezvous*, particularly Chapter 3.

[3] It might be objected that, by the lights of contemporary critical theory, what we used to call imaginative perception is merely unacknowledged political commitment. But at the same time we must admit that Theory represents an even more extreme acknowledgment of the theory of the primacy of the imagination. For if the imagination (lately called "subjectivity") is ruled out of the picture, then nothing is perceived whether political or metaphysical. Whatever we assume, it remains that without a structuring imagination, we are left with a brute irredeemable facticity, a blank existential mystery arguing the failure of both logocentrism and any form of the *a priori*.

more successful rhetorical experiments. It is a poem that literally tries to be a poem of the *res*, "an alteration/Of words that was a change of nature" ("Ordinary Evening" XXIX 14–15). I submit it as an object of study for what it can tell us about the resources of rhetoric.[4]

As a poem which explores the ability of language to posit or to name or to create, it continues certain logogenetic experiments he carried on in certain summer poems, such as "Notes Toward a Supreme Fiction", in which Stevens had written about the sun as seen by the "ignorant man", the sun which "must bear no name, gold flourisher, but be/In the difficulty of what it is to be". The sun, source of light, is Stevens' chief image of the source of appearances, of pure unnamable phenomena.

But in the extremely cold winter of 1943[5] it was time to write about the absence of the sun, about pure being. Like most of the midwinter poems, "No Possum" tries to redeem the sense of loss, the stasis and finality that comes when Nature stops and the mind reduces everything to pure thought. It is the kind of poem that might itself have been called an "Esthétique du Mal". For Stevens had always seen that kind of reductive finality as an aesthetic evil, as a poverty (hence the title) of the spirit. This finality is the theme and the aesthetic problem of the poem.

This problem is stated with a rather unsatisfying discursiveness in line four: "Bad is final in this light"; its reversal is given, equally unconvincingly, in lines 19 and 20: "It is here, in this bad, that we reach/The last purity of the knowledge of good". But this is merely the poem's thesis statement; perhaps we should not expect poetry here. What is, then, the rhetoric of the *res*? How can language show us how to name a plain sense of things? Shall we find here a language "untouched/By trope or deviation", a language that goes "straight to the transfixing object"?

In fact, we find three very different rhetorics. One of them, indeed, uses what we might expect: an entirely transparent and referential language. Almost entirely free of metaphor or decoration, it would satisfy the most rigorous of objectivist poets:

> The field is frozen. The leaves are dry.
> […]
> The leaves hop, scraping on the ground.
> It is deep January. The sky is hard.
> The stalks are rooted firmly in ice. (3, 12–14)

Of these six sentences, five use the static copula "is" with an adjective or a past participle, denoting some fixed condition or some process having come to stasis. One sentence denotes the first of only two actual events that occur in the landscape in the whole poem: the leaves hop, scraping on the ground. Perhaps there is a bare

[4] For another example, see my article "Metaphoric Structures in Wallace Stevens' "Thirteen Ways of Looking at a Blackbird'" in the *Journal of English and Germanic Philology*, Vol. 71 (1972), 321–335.

[5] Joan Richardson (1988) says the poem is, on a thematic level, about deep disillusionment. Stevens began the poem in January of 1943, she says, when he was worrying about his daughter Holly's rebellions. Much against Stevens' wishes, Holly had dropped out of Vassar College. Stevens had helped her get a clerk's job at Aetna Life Insurance Company, but he very much hoped she would go back to college in the fall. See *Wallace Stevens: The Later Years, 1923–1955*, p. 214 and p. 224.

hint of metaphor in the word "hop": if the leaves can hop, there is no need for a wind to move them. But there is little connotation here beyond emphasizing the stillness; these sentences merely provide the ground on which this landscape is constructed.

But Stevens was never satisfied with mere objectivity in language. There is a second rhetoric here which moves beyond mere referentiality into a kind of surrealism. At the same time he avoids hypostatizing abstract entities through a careful rhetoric of negation. The first two lines are an instance.

> He is not here, the old sun,
> As absent as if he were asleep. (1–2)

Though the sun is "not here", its light somehow remains un-negated, so that "bad" can look "final" in it (l-3). Other adjectives indirectly give us qualities of that light: the air is "bleak", the fields are "frozen" and the sky is "hard". The effect is that of a dull light diffused uniformly through the scene, without focus, brilliance, or source.

Lines 5–9, similarly, allow surreal metaphorical images but then negate or deny the vehicles of the metaphors, leaving their tenors as unnamed residuals.

> In this bleak air the broken stalks
> Have arms without hands. They have trunks
> Without legs, or, for that, without heads.
> They have heads in which a captive cry
> Is merely the moving of a tongue. (5–9)

The idea of a "cry" is first proposed and then denied.[6] It is "merely the moving of a tongue" in a head which both does and doesn't exist, on a body which is merely a stalk without legs or hands. Such language proposes a metaphor whose tenor is a human figure, but he too has been negated, or erased. At the same time, our sense of a perceiving poet as author of all these figures is erased in the flatness and seeming objectivity of the language.

However, there are other lines which are much less objective than those.

> Snow sparkles like eyesight falling to earth,
> Like seeing fallen brightly away. (10–11)

At last we have what sounds like a language appropriate to the 'poetic' – the brilliance of metaphor, a sense of the poet manipulating images. Yet the pattern of denial and negation continues. Now the light is like eyesight falling or like seeing fallen: the reference to blindness points us to the loss of the sun, while the "sparkle" suggests an unsourced brilliance emanating somehow out of the cold. Referent and connotation thus reinforce and deny each other in an image that magically gives us both darkness and brilliance at the same time. And it is this fusion which is projected on the flat factuality of the scene as the poem returns to its most purely referential language: "The leaves hop, scraping on the ground".

Juxtapositions like this explain, I think, how the poem manages to give a sense of transcendence to an otherwise dull scene. The trick is indeed a rhetorical one, an ingenious "alteration of words" which establishes more-than-physical presences. First Stevens transcends mere reality through metaphor; next, he denies or erases

[6] Later Stevens would devote a whole poem, "The Course of a Particular", to the cry of the leaves.

the vehicle of the metaphor, leaving a sense of a purer tenor behind, miraculously un-negated. The result is a sense of the scene which seeks "nothing beyond reality", as "Ordinary Evening" puts it, yet includes the "spirit's alchemicana".

One of the most interesting things to notice in the poem, however, is how Stevens deals with the theme of death, the obligatory element of the traditional winter-poem. Here we find the poem's third rhetoric, an almost completely empty rhetoric consisting mainly of things which have little or no existence apart from language.

> It is in this solitude, a syllable,
> Out of these gawky flitterings,
> Intones its single emptiness,
> The savagest hollow of winter-sounds. (15–18)

There are many such lines in Stevens' poetry, and for many critics they seem weak because they're almost entirely non-referential. But we should consider looking at such rhetoric with another attitude. The idea, after all, is to find words which hypostatize an intangible, the finality of stasis, what "The Snow Man" called the "nothing that is". The real error for Stevens would be in hypostatizing the conventional ghosts and spirits, false concretenesses. Stevens' words posit desacralized insubstantials – flitterings, emptinesses, hollows, syllables – empty shapes, meaningless sounds. Among them, one strong verb ("intones") and one strong adjective ("savagest") shock us into crediting them with existence. He calls them "winter-sounds".

Nevertheless, Stevens might be accused of hypostatizing false entities here, were it not that he does it with a wink. For if we notice just how arbitrarily named these mysterious entities are, we know that such naming is only a witty game and that he does not mistake them for real essences. The game is revealed as soon as we try swapping around the nouns and adjectives. Suppose he had written, for instance, in place of lines 15 and 17,

> It is in this emptiness, a syllable…
> Intones its hollow solitude…

or if line 18 had read, say, the "gawkiest syllables of winter-sound", or the "savagest flitterings of solitude", or maybe the "hollowest syllables of emptiness". They would all, it seems to me, strike approximately the same note. I take this to mean that even as Stevens asserts the existence of these entities, his language denies its own claim to name the unnameable thing heard in the landscape. So that all that is left after the language in effect cancels itself is some residual object of all that "savagery" – a "syllable" which becomes a dominant underlying monotone. This poem calls it the "savagest hollow of winter-sound"; "Ordinary Evening" calls it the "big X of the returning primitive"; but what it actually is, is beyond naming, perhaps beyond thinking. "The Plain Sense of Things", a later poem, admits that it is merely a "blank cold", in an "inert savoir".

These three rhetorics suggest Stevens' rigorous efforts to keep language from falsifying the objects it proposes to the attention of the reader. The first is a purely referential, self-effacing language with ordinary objects. The second is a language which permits metaphor, but then denies the metaphor's vehicle in an effort to leave the pure tenor as residual. The third is a purely connotational language which has

the wit, however, to advertise its own arbitrariness as articulation, thus admitting its own inability to name. All of these languages, in one way or another, consciously efface or erase themselves as language claiming ontological status. At the same time they hope to leave behind a sense of their tenor, as an abiding residuum safely beyond the evasions of metaphor. This is a very different hope from that of the bald, abstract, discursive language which sets out the poem's thesis, and which pretends that entities ("bad" and "good") exist simply because language can name them. The poem thus demonstrates that the *res* includes more than physical objects, more than the conventionalizations and abstractions our language can name. As he put it in "Ordinary Evening":

> It is not in the premise that reality
> Is a solid. It may be a shade that traverses
> A dust, a force that traverses a shade. (XXXI 15–18)

But the poem does not stop here. There are four more lines amounting to a coda or a proof text, a "new oration of the cold" made possible by the brilliant particulars of the poem.

> The crow looks rusty as he rises up.
> Bright is the malice in his eye …
> One joins him there for company,
> But at a distance, in another tree. (21–24)

Rhetorically, this is a shift *most* of the way back to pure referentiality. The crow's rising up is only the second objective event of the poem (the first was the scraping of the leaves); out of so much stasis, this rising up is the sign of a miracle. Of course, risings up are, in traditional symbolism, just that. While the "rusty" color of his wings suggests another brilliant flash of reflected light, it also suggests that, like the phoenix, he has been in a state of disuse a long time.

But the sudden shift toward symbolic events is only the first of five turns that make the poem's ending seem miraculous. The second is the sudden shift of voice in the next line. Rather than the discursive grammar of description and reportage, we suddenly have the exclamatory rhetoric of praise. The syntactical inversion of "Bright is the malice in his eye" quotes the folksong, "Black is the color of my true love's hair". And what is being praised? The malice, which (and this is the third turn) becomes the mal-ice: the bad, the cold. It renames the bad with the name of a human feeling, though it has now become an inhuman knowledge in the crow's eye. This is far better than saying, with mere abstract discursiveness, that it is "in this bad, that we reach/The last purity of the knowledge of good". The crow already knows both bad and good; for him, malice and joy are the same.

The fourth turn is the shift of pronoun which allows the heretofore self-effacing poet to enter the scene. He speaks of himself as "one" who "joins him there for company", one who means to sympathize rather than merely to observe. The "one" is perhaps not literally the poet, who cannot fly; but nor is it clearly another crow (which would have required the word "another"). The ambiguous syntax, in effect, merges the two; the poet's sympathies, if not the poet himself, join the crow – and

then, as if on second thought (and this is the fifth turn), the poet keeps himself, out of a sense of reticence and objectivity, "at a distance, in another tree".

Is this poem, then, about seeing things exactly as they are, about finding the "plain sense of things"? Not obviously. There are only three kinds of *things* in the poem, things with symbolic value that a purely imagistic poet could use. One imagines such a poet writing the poem in three lines:

> The field is frozen. The leaves are dry. (The evil condition)
> The leaves hop, scraping on the ground. (The cry of protest)
> The crow looks rusty as he rises up. (The upward turn)

But this would not be Stevens' poem. What he has added is rhetoric. The result is a poetry in which the poet's participation in language amounts to a participation in nature, while negating itself as mere language. It is a primary example of "an alteration/Of words that was a change of nature", and a primary bit of data on the way our rhetoric creates our sense of the world.

Chapter 8
American Shoot-Out: Hemingway vs. Richard Ford

Ernest Hemingway's 1936 short story "The Short Happy Life of Francis Macomber" has long been, despite its setting in Africa, an American classic. One of its subjects, aside from the famous analysis of courage and grace under pressure,[1] is sexual betrayal.[2] Its story of a man trying to behave as a man when he is undermined both by fear of violent death and the treacherous behavior of an adulterous wife has become a defining document in our concept of the American character.

Now a new story by Richard Ford, "Issues", published this year in *The New Yorker* (September 18, 2000), challenges Hemingway on his own grounds. Its juxtaposition of adulterous sex and violent death so clearly evokes Hemingway's classic story that at first glance we are almost tempted to take it as a case of plagiarism. But a close comparison of the two stories shows that Ford is not just copying. His story echoes Hemingway's on the most basic grounds of style, narrative technique and characterization, even the epistemological grounds upon which choices about style and characterization are based. The comparison thus helps us see how some important aspects of American culture have changed since then. To my mind, the comparison not only reinforces our sense of Hemingway as a kind of a gold standard, but it also reveals Ford to be one of the most worthy – and most dangerous – of his progeny.

The comparison begins and ends, I think, in the juxtaposition of two women, the adulterous antagonists of the two stories. Margot Macomber, Hemingway's adulteress, has come to be known as a prototype of a certain kind of distinctively American woman. Hemingway uses the mind of Robert Wilson, the English safari guide, to describe such women, who belong to an international sporting set:

> They are, he thought, the hardest in the world; the hardest, the cruellest, the most predatory and the most attractive and their men have softened or gone to pieces nervously as they have hardened. Or is it that they pick men they can handle? They can't know that much at the age

[1] For a good discussion of the code of the hunter, see Robert Penn Warren's 1949 essay, "Ernest Hemingway" (Warren 1958, p. 87).

[2] See, for instance, Wilson (1939, p. 31) or Baker (1956, pp. 187–196).

T. P. Caldwell, *Discourse, Structure and Linguistic Choice*, Studies in Linguistics and Philosophy 101, https://doi.org/10.1007/978-3-319-75441-3_8

> they marry, he thought. He was grateful that he had gone through his education on American women before now because this was a very attractive one. (Hemingway 1987, p. 9)

Margot's husband, Francis Macomber, has "just shown himself, very publicly, to be a coward" (Hemingway 1987, p. 6), running from a wounded lion, and she has immediately begun to punish him for it. During the night, she sneaks out of the tent to sleep with Wilson, not at all minding that her husband is aware of it. When she returns, her husband says:

> "Where have you been?"
> "I just went out to get a breath of air".
> "You did, like hell".
> "What do you want me to say, darling?"
> "Where have you been?"
> "Out to get a breath of air".
> "That's a new name for it. You *are* a bitch".
> "Well, you're a coward".
> "All right", he said. "What of it?"
> "Nothing as far as I'm concerned. But please let's not talk, darling, because I'm very sleepy".
> "You think that I'll take anything".
> "I know you will, sweet". (Hemingway 1987, pp. 18–19)

Clearly, for Hemingway, the relation between Margot and Francis Macomber is emblematic of something more archetypal: the war between the sexes. Clearly, it is not about sex but sexual politics: not love, but power. When Margot has the upper hand, she uses her power to terrorize her husband. Later in the story, when her husband regains his courage in a hunt for buffalo, we understand that she will lose that power. In the unforgettable climax of the story, she picks up the powerful 6.5 Mannlicher rifle while she is sitting in the car and, with her husband standing firm in front of the charging buffalo, shoots and kills him.

In an earlier passage, in Hemingway's famous long, uncoiling whiplash sentences, we get the key moment of her husband's short life from his point of view. The buffalo comes charging out of the bush,

> nose out, mouth tight closed, blood dripping, massive head straight out, coming in a charge, his little pig eyes bloodshot as he looked at them. Wilson, who was ahead was kneeling shooting, and Macomber, as he fired, unhearing his shot in the roaring of Wilson's gun, saw fragments like slate burst from the huge boss of the horns, and the head jerked, he shot again at the wide nostrils and saw the horns jolt again and fragments fly, and he did not see Wilson now and, aiming carefully, shot again with the buffalo's huge bulk almost on him and his rifle almost level with the oncoming head, nose out, and he could see the little wicked eyes and the head started to lower and he felt a sudden white-hot, blinding flash explode inside his head and that was all he ever felt. (Hemingway 1987, p. 27)

When we compare that death scene to Richard Ford's, we see a wealth of similarities, enough to make the differences vividly apparent. Steven Reeves's murderous wife is Marjorie Reeves, an American woman who announces to her husband, as they are driving down a rural road in Connecticut toward a dinner party with another couple, that she has had an affair with the older, more powerful man who is their host. This news comes in the first paragraph. There has been no background story

about cowardice and courage, no evidence of an ongoing power struggle. Steven pulls their Mercedes station wagon off the road to "organize the information properly before going on" (Ford 2000, p. 136).

The almost soulless casualness with which she delivers this news warns us that this is another document in the history of the war between the sexes. The marriage seems as inessential as that of the Macombers. Their situation is described with an overly dense layer of unfocused detail, but without a hint of irony. Steven's work, for instance, is described this way:

> His job meant poring over esoteric petrochemical-industry journals, attending technical seminars, flying to vendor conventions, then writing up status reports while keeping an eye on the market for the benefit of his higher-ups. (Ford 2000, p. 136)

Though the story is ostensibly his, there is nothing in these details which grant him any moral weight or status, either as protagonist or victim.

Yet the outlines of the story are nearly identical to Hemingway's. A few minutes later, by a kind of reflex he hardly understands, Steven instinctively tries to regain the upper hand. He hits her – in the nose, with the back of his hand. Though the blood ruins her "tiny green cocktail dress" she remains strangely calm. "I can't go to the Nicholsons' now", she says (Ford 2000, p. 140).

But she immediately fights back. When he demands to know if she is sorry for her adultery, she says,

> "I was sorry when I told you … though not very sorry.… Only sorry because I had to tell you. And now that I've told you and you've hit me in my face and probably broken my nose, I'm not sorry about anything – except that. And I'm sorry about being married to you, which I will remedy as soon as I can". (Ford 2000, p. 141)

As in the Hemingway story, there is also a story about an animal. Not a lion or a buffalo, but a raccoon. The raccoon is hit, as they watch, by a passing pickup truck. The callousness of the driver infuriates Marjorie. When she sees the injured raccoon trying to drag itself off the road, she continues her tirade:

> "So *now*, will you as a gesture of whatever good there is in you, get out and go over and do something to help that poor injured creature that those motherfucking rednecks maimed with their motherfucking pickup truck and then, because they are pieces of shit and low forms of degraded humanity, laughed about? Can you do that, Steven? Is that in your range?" (Ford 2000, p. 141)

So Stephen, unaware, walks 20 yards up the deserted rural road to see, in the dark, about an injured raccoon which has dragged itself into the roadside bushes. While he is there he hears his own car start up. The headlights "disclose" him.

> He turned just in time to see Marjorie's pretty face illuminated, as his own had been, by the salmon dashboard lights. He saw the tips of her fingers atop the arc of the steering wheel, heard the sudden surge of the engine. In the woods to the west he noticed an odd glow coming through the trees, something yellow, something out of the low, wet ground, a mist, a vapor, something that might be magical. The air smelled sweet now. The peepers stopped peeping. And then that was all. (Ford 2000, p. 141)

The parallels between the two stories are inescapable. In both stories, the woman commits adultery and makes sure her husband knows of it. In both stories, the husband is severely weakened by the news, but recovers his strength and fights back. Both stories suggest a semi-mystical relationship between the man and nature. In both stories the wife kills the husband in an act of sudden violence. At Macomber's sudden death, Hemingway writes, "and that was all he ever felt". At Steven Reeve's sudden death, Ford writes almost identically: "And then that was all". Even the name of Ford's deadly female, Marjorie, echoes that of Hemingway's role model, Margot.

The parallels are indeed so obvious that Ford must have intended them to be noticed. Of course no one will accuse him of plagiarism. The currently fashionable word is "quotation". Some of us might be reminded of the aphorism, "Imitation is the sincerest form of flattery", but Ford is too scrupulous a writer merely to imitate.[3] Rather, by joining Hemingway's game and claiming to play it better than he, Ford seems deliberately to be throwing down the gauntlet at Hemingway's feet. He at once pays homage to the Master and lays claim to his position in the pantheon of American Literature.

In fact, Ford has considered himself Hemingway's challenger for many years, at least since the mid-1980s, when he told me so in a personal conversation. Moreover, the title of his recent collection of three long stories, *Women with Men*, specifically echoes Hemingway's own 1927 collection of stories, *Men Without Women*.[4] Ford must have been very proud that his first novel, *A Piece of My Heart* (Harper and Row 1976), was nominated for the Ernest Hemingway Prize for Best First Novel. Critics have long spotted the similarities between Ford and Hemingway – the hard-boiled prose, the masculine interests in hunting and fishing, the love-hate relationship with women, the consuming efforts of men to find proper ways of behaving in the face of death. Both writers constantly require the presence of death to lend intensity and meaning – or meaninglessness – to their narrators' and heroes' every move.[5]

When Ford was at the University of Michigan, in the early 1960s, Hemingway's stories – "The Killers", "A Clean, Well-Lighted Place", "The Snows of Kilimanjaro", "Big Two-Hearted River", "Hills like White Elephants" – were among the defining documents in every English major's awareness of the fashionable philosophy of the time: existentialism. It was a European existentialism, to be sure, owned mostly by Jean Paul Sartre and Albert Camus. A certain sentimental version of it gave *cachet* to the American beatniks, Jack Kerouac and Lawrence Ferlinghetti and Allen Ginsberg. But for finding the honest black core of this "God-abandoned" world (Warren 1958, p. 88), it was necessary to read Hemingway, to 'hear' the Hemingway style. Albert Camus himself had heard it there.

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[3] Indeed, scrupulousness itself is another point of comparison between Ford and Hemingway. Ford's discipline as a writer is that of a man hyper-conscious of Hemingway's failure to maintain discipline in the face of success, as documented by Hemingway's African companion-piece, "The Snows of Kilimanjaro". *Cf*., for instance, Baker, 1956, pp. 192 *ff*.

[4] And, perhaps Ford Madox Ford's previous novel, *Women and Men.*

[5] This seems especially true of Ford's most recent work. All three of the novelettes in *Women with Men* feature this juxtaposition.

Yet Ford, though he is very much a stylist and prides himself on the discipline of his sentences every bit as much as Hemingway did, sounds very different. For Hemingway, presentation is all. He pares every sentence down to an almost mannered minimal, hoping to achieve concreteness through a kind of magical, hypostatic, austerity of expression. Hemingway means, by style alone, to apotheosize even ordinary, banal events into something timeless and religious (or quasi-religious or parodically religious). For example, here is Hemingway on the subject of lime gimlets:

> The mess boy had started them already, lifting the bottles out of the canvas cooling bags that sweated wet in the wind that blew through the trees that shaded the tents. (Hemingway 1987, p. 5)
>
> So they sat there in the shade where the camp was pitched under some wide-topped acacia trees with the boulder-strewn cliff behind them, and a stretch of grass that ran to the boulder-filled stream in front with forest beyond it, and drank their just-cool lime drinks and avoided one another's eyes while the boys set the table for lunch. (Hemingway 1987, p. 7)

For Hemingway, drinks are not only social habits, but moments when men celebrate and ritualize their places in nature. The language sounds like liturgy in the way it enumerates the sacramental elements of their place in the landscape. Ford, too, ritualizes nature at moments of death. But most of the time, Ford is an explainer rather than a presenter.[6] His narrators, usually (though not in this story) the main characters, are typically loquacious, hypersensitive men who love to explain themselves with extreme attention to nuance. Ford's great talent is in noticing every device of self-justification and rationalization that Americans employ, and reporting all of them with the kind of ruthless and unapologetic detail that apotheosizes banality itself.

As a result, Ford's existentialism comes out sounding very different from Hemingway's. For Hemingway, personal courage and honor are defined in the acts of a human being facing death. For all existentialists, of course, the inevitability of death is the paramount fact. Death is what renders, in the existential mind, all of one's acts meaningless. But at the same time, for Jean Paul Sartre and Hemingway both, acting in the face of meaninglessness is courageous. This is, of course, paradoxical, or as Sartre would insist, absurd. Such a philosophy distrusts rational explanation, and requires an austere, even astringent language. It is an austerity born of the distrust of meaning itself. The writer who knows that his words cannot be trusted will not rely on words. Hence Hemingway's intense effort to turn words from mere symbols or signs into concrete events in and of themselves.

Ford's existentialism, on the other hand, is of a very different sort. While Hemingway's people assert their individuality by acting heroically (or at least

[6] In a July 21, 1999, radio interview conducted by Beth Farnsworth at PBS, Ford argued that Hemingway's compressed style was too compact to allow the necessary exploration of the moral issues. "Hemingway often, because he was casual in talking about despair, because he was casual in letting his characters not say what they thought often, he didn't express for me enough. He was in many ways stingy with language and didn't express what I thought was literature's moral density and complexity accurately enough, or in a way, morally enough". http://www.pbs.org/newshour/bb/entertainment/july-dec99/hemingway_7-21.html. [Editors' Note: this URL is no longer available.]

extremely) in the face of absurdity, Ford's people seem merely at the mercy of the meaninglessness of their actions. Ford trusts words, but he doesn't trust the categories or ideologies or even the truisms of his culture. For example, though he was born and sometimes lives in Mississippi, he refuses to think of himself as a Southern writer. But it's not just that the idea of a 'Southern Writer' carries a lot of ideological baggage that he doesn't wish to appropriate for himself; he doesn't believe there is any such thing as a southern writer or a southern literature.

In one sense, such a position is commendable. Every writer should distrust the *received* meanings of words and concepts. He or she should take on the obligation to *make* meaning, not just repeat meanings that are already there. Ford is scrupulous about that. As narrators, Ford's spokespeople are not feminists, not republicans, not liberals, not romantics – none of the 'isms' of our time are spoken for. But at the same time, this refusal to believe in essences of any kind affects his ability to characterize. No one in his books, for instance, finds any grace or courage or integrity among the choices of his life. Ford doesn't seem to believe in the existence of character, of place, of essence of any kind. Characters who *want* to believe in such things are given a faintly satirical treatment, a gentle laugh at their naivety. For example, Steven Reeves, in college,

> had taken Dr. Sudofsky's class on "Ulysses" at Bates, and come away with a sense of irony and humor and a conviction that true knowledge was a spiritual journey, a quest, not a storage of dry facts – a thing like freedom which you fully experienced only in practice. He had also played hockey and thought that knowledge and aggressiveness were a subtle and surprising combination. He practiced both at Packard-Wells. (Ford 2000, p. 137)

Here, Steven's self-assessment is a collection of abstract nouns and clichés (irony, humor, true knowledge, spiritual journey, quest, freedom, knowledge) which should, but doesn't, render unnecessary Ford's foregoing explanation: "He knew he was a callow man – a boy in some ways, still – but he was not stupid" (Ford 2000, p. 137).

But satire is not Ford's usual mode. What he seems to strive for is a scrupulously emotionless description of the thoughts in a character's head, in a way which precisely calibrates his clarity or muddle-headedness at that moment. Now, for instance, Steven is rather muddled:

> But for a brief and terrifying moment in the cool, padded semi-darkness just when he began to experience his loss for words, he entered or at least nearly slipped into a hypnotic fugue-like state in which he began to realize and fear that he perhaps *could* not say another word; that something (work fatigue, shock, disappointment over what Marjorie had admitted) was at that moment causing him to detach from reality, to begin to slide away from the moment he was in, and in fact to lose his purchase and go crazy to the extent that he was in jeopardy of beginning to gibber like a chimp, or just to slip slowly sideways against the upholstered door and not speak for a long, long time – months – and then only with the aid of drugs be able merely to speak in simple utterances that would seem cryptic, so that eventually he would have to be looked after by his mother's family in Damariscotta (Ford 2000, p. 137).

This sentence is, in a certain way, a virtuoso piece of bad writing. It is 162 words of mumbling, and Ford takes a considerable risk that readers will blame him for it rather than Steven. But we know that Ford is a careful stylist, and we have to imagine that he constructed this artlessly inefficient sentence deliberately to show Steven

beginning to "gibber like a chimp". It is a vivid example of Ford's technique of removing individuality from his characters. Here Steven seems a helpless vessel of helpless babblings, certainly not a hero trying to gird his loins for battle.

Such passages also raise an important question about the management of point of view. Does the language belong to the omniscient narrator, or to the limited point of view of the character? Traditional practitioners of the short story would use both points of view, but would insist on keeping them distinguishable so that the answer could be determined. It has been a tenet of Modernism since Henry James that the reader must be allowed his skepticism and his freedom to make his own judgments about the characters and the events of a story. But Ford deliberately merges two points of view so that this question is not answerable. This merging has the effect of imposing the author's ideology on the materials of the story, as was common in the nineteenth century but supposedly disallowed in the 'realist' traditions of the twentieth century.

In fact, Ford does that quite deliberately, as a kind of homage to Hemingway, from whom he learned it. It is a form of epistemological 'cheating', and one of the defining characteristics of postmodernist art. Even though Hemingway wrote his story in the 1920s, he was postmodernist in this respect, and that is one reason his influence continues today. The purpose of this 'cheating' is to disallow the reader's skepticism, to deny the reader an epistemological finger-hold by which he might pry apart the various levels of the narrative and thereby arrive at an independent judgment about the meaning of the events. Its effect is to present the events of the story as opaque and unquestionable. A classic example occurs at the climax of Hemingway's story, when the apparently objective narrator says,

> … and Mrs. Macomber, in the car, had shot at the buffalo with the 6.5 Mannlicher as it seemed about to gore Macomber and had hit her husband about two inches up and a little to one side of the base of his skull. (Hemingway 1987, p. 28)

Did she, or did she not, intend to kill her husband? The question turns on the point of view of this passage.[7] If the sentence is in the objective narrator's point of view, then the words "had shot at the buffalo" mean that her intention was to save her husband's life by killing the buffalo. Yet the words "seemed about to gore Macomber", while reinforcing the sense of her good motive, also permits us to suspect the objectivity of the narration.

Such ambiguities tease us, but at last there is no consistent pattern which would allow us to distinguish the various points of view in the story. Hemingway, in the interest of opacity rather than clarity, lets ambiguity reach into its very epistemological structures. He allows his point of view to move everywhere: he goes into the

[7] The issue of whether Margot meant to kill her husband has been analyzed from a number of other perspectives, too. There are biological, contractual, emotional, political, even logistical analyses of the issue. A few of them, respectively, are Bennett Kravitz (1998) "She Loves Me, She Loves Me Not: The Short Happy Symbiotic Marriage of Margot and Francis Macomber"; Michelle Sugiyama (1996) "What's Love Got to Do With It? An Evolutionary Analysis of 'The Short Happy Life of Francis Macomber'" (see especially p. 27); Nina Baym (1990) "Actually I Felt Sorry for the Lion". p. 113; Jerry A. Herndon (1975) "No 'Maggie's Drawers' for Margot Macomber", pp. 289–91.

mind of Francis Macomber, Wilson, even the lion; but not, in any revealing way, the mind of Margot. The result is an increased sense of fear on the part of the reader: the issues that result in death at the hands of an American woman are not attributable to any local psychology or logic; they are mythic, or universal, or merely incomprehensible. And therefore the more frightening.

Ford, clearly, learned this too from Hemingway. But he pushes the postmodernist idea of point of view a step further than Hemingway. In Ford's narration, there is a deliberate, almost fascist, in-your-face refusal to allow the various points of view to distinguish themselves so that the reader can assess the various versions of reality. The sense of a separable narrator disappears altogether, and the personal, insistently explanatory voice of the author urges us to a sense not of clarity about what is happening, as one would think would be the advantage of omniscience, but to a sense of the opacity, almost the arbitrariness, of what is really happening. One might try, for example, to count how many distinguishable points of view there are in the following:

> She was a pretty, blond, convictionless girl with small demure features – small nose, small ears, small chin, though with a surprisingly full-lipped smile, which she practiced on everyone. She was fond of getting a little tipsy at parties and lowering her voice and sitting on a flowered ottoman or a burl tabletop with a glass of something and showing too much of her legs or inappropriate amounts of her small breasts … Steven had … liked her bobbed hair, wispy features, translucent skin, and the slightly husky voice that made her seem more sophisticated than she was, and somehow convinced her she was, too. In their community, east of Hartford, the women who knew Marjorie Reeves thought of her as a bimbo who would not stay married to sweet Steven Reeves very long. His second wife would be the right wife. Marjorie was just a starter.
>
> Marjorie, however, did not think of herself that way, but only that she liked men and felt happy around them and assumed Steven thought this was fine and that in the long run it would help his career to have a pretty wife no one could Pigeonhole. (Ford, 2000, p. 137)

On a certain level, of course, we can distinguish Steven's preferences and the neighborhood women's theories from Marjorie's self-justifications, but clearly they are all subsumed under the omniscient, explanatory voice of the story-teller, who feels free to tell us she was not as sophisticated as she thought, and sometimes behaved "inappropriately". Who is this story-teller? Certainly he has a kind of omniscience, such that he can speak for the other party-goers (men?) who are "surprised" at her full lips, and the other sensibility (somebody's wife?) who finds the amount of leg or breast she shows "too much" or "inappropriate". And whose words are "bobbed" or "wispy" or "translucent"? Steven's? More likely the author's own. What we sense here is not Steven's description of an attractive woman encountered at a party, but the author's direct creation of a woman who does not exist outside his words.

This narrator, clearly, is no single person or point of view, but simply an authoritative voice, with local inflections, who can move around among the players in the scene like a movie director. Sometimes the point of view is that of the community of opinion, sometimes only the location of the moving camera in the imagined movie of the same subject (as when, for instance, we see from outside the car what Steven looks like in the glare of the car's "salmon-colored" dashboard lights). As in

many postmodern stories, the narrator is not so much omniscient or godlike (certainly not benevolent) as simply the manipulator of the world of the story, telling all his characters where to stand and what to say. Finally, there is no sense at all that the story is *their* story, or that they might at any minute carry it into directions that the author might not have predicted. The ostensible randomness of the events is merely a disguise: the story is his, and they are merely his spokespeople.

This kind of authorial domination of the story is another distinctly postmodern feature, and one of its consequences is that it renders characterization itself obsolete. Ford doesn't ever let his characters speak for themselves. The sense of artifice in their creation is deliberate, and reminds us of who is boss here. This implies that what is really being communicated here is the author's ideology, not his characters' stories.

In this, Ford has significantly pushed beyond Hemingway's postmodernism. Hemingway's multiple points of view create shadows, ambiguities and mysteries. His famous dictum – that the dignity of an iceberg is owing to the fact that seven eighths of it is under water – reminds us that so much of the story exists in implication, somewhere in the background. Everything that happens in the story has momentum and weight because so much of what the story contains is unsaid. Thus, the reader feels able to learn something from studying Hemingway – about, for example, the meaning of death or courage, about the wars between the sexes, about the character of the American woman, or the consequences of sexual infidelity. And so it is that critics feel it important to settle whether Margot 'meant' to kill her husband or not, as if she were a real person whose motives and feelings existed beyond Hemingway's reporting of them.

To be sure, critics have often criticized Hemingway's characterizations, especially of women. They are all, it is often said, either angels or bitches. But at least characterization is one of his intents, and the idea of communicating a sense of individuality is central to him. For Hemingway, one affirms his individuality by the way one behaves in the face of the world's absurdity. Ford, by contrast, doesn't seem to want to characterize at all. Of course he surrounds his people with a density of seemingly observed detail, but he doesn't really believe in character. The woman here, Marjorie Reeves, is not someone the concept of character can even explain. She's not at all mythic or prototypical; rather, she is ideological.

What does it mean to say that she represents Ford's ideology? I have already indicated that Ford's ideology is not political or philosophical or ethical. Ford, as I have suggested, doesn't credit any of the cultural generalizations or political theses that one might expect a writer in the 1990s to want to push. Rather, I believe that Ford's ideology is an extension of Hemingway's existentialism. While Hemingway always leaves his characters (and the reader) facing the absurdity of meaningless and often murderous fact, Ford pushes this existential absurdity a step further. He seems to find this absurdity not just in extreme moments, but everywhere in society, in ordinary everyday life. Where others find that people's stories illustrate principles or morals or at least cultural generalizations, Ford does not allow the possibility of anyone's learning anything. Indeed, in "Issues" it is significant that Steven's

powerful insight, in the moment before he dies, is that he doesn't know his wife; indeed, the possibility of knowing her has been lost, or never existed. Indeed, the possibility of anybody ever knowing anything is so remote as to never have been within anyone's expectations.

In short, Ford's postmodern point-of-view structure directly entails his attitude toward characterization. For that matter, many postmodernist writers barely pay lip service to the idea of characterization, and Ford shows us why. When the point of view is so controlling, the people in the stories have no depth and no mystery. The authorial spotlight moves everywhere, leaving no shadows. As a result, the sense of people having lives outside the story disappears.

This lack of characterization is not only technical: it is also thematic. While Ford tells us a great deal about Marjorie, none of the information is the sort that one might base conclusions on, or that allows Steven to believe that he knows or understands her.

> … in Marjorie's character there had always been the impulse to confess upsetting things that turned out – he believed – not to be true; being a hooker for a summer up in Saugatuck; topless dancing while she was an undergraduate; heroin experimentation; taking part in armed robberies with her high-school boyfriend in Goshen, where she was from…. And now, while he didn't particularly think any of these stories was a bit truer, he did think that he didn't really know his wife at all; and that the entire conception of knowing another person, of trust, of closeness, of marriage itself was … completely out of date, defunct, was something that typified another era, now unfortunately gone. (Ford 2000, p. 138)

Clearly Ford had a good reason for inserting the rumors of Marjorie's criminal background: they help mitigate the essential implausibility of the ending. But it is instructive to notice that these details don't help much with *characterizing* Marjorie. It is a fault of the story, I think, that we don't really have any curiosity about whether she actually did those things. She seems to have no depths that we are unaware of. Steven sees this tendency to confess crimes as a part of her character, perhaps merely a tease; but the narrator won't let us believe this. Every word she utters in the story turns out to be simply and literally true, even when she is only saying, "you'll be sorry". And that, rather than creating some sense of psychological depth in her character, seems part of her monstrousness.

One aspect of human individualism, of course, is expressed in people's aspirations and motivations. But Marjorie doesn't seem to have either of those. The question of her motivation doesn't even arise in the story, and the issue of emotional plausibility seems itself to be of no concern. How could Steven and Marjorie ever have shared a pleasant breakfast or an intimate evening? These things are imaginable, but seem outside the story altogether. The relationship between these two married people is not even personal. Rather, it is merely exemplary – of Ford's view of a world in which misunderstanding, ignorance, and the failure of essence are absolute because there is nothing – not character, not meaning, not motivation or reason – to be understood.

For more evidence of this, we might ask what can be expected to happen after the ending of the stories. Margot Macomber, Hemingway's story implies, will continue to live after the story is over. She will have to go to Nairobi and endure a hearing and

its attendant publicity. But soon, we guess, she will return to America to bask in new-found notoriety and her husband's money, and continue to live in a way befitting Hemingway's theories about people of her class and station. But it's very difficult to imagine Marjorie Reeves continuing to live her own life. Ford's story does not invite us to imagine what happens next. Will she continue to the dinner party? Will she wash the blood off her face in the powder room and then amuse her hosts with some tale of what happened to Steven? Will she return home and catch a plane to another country before the body is found? No imaginable scenario is implied or even seems possible. It's as if she exists for the sake of the story only, and has no existence or meaning of her own outside it.

What does this refusal to characterize mean as a phenomenon in American literature? I believe it points up a disturbing pattern in the ongoing culture wars in America. It means that Ford, and postmodern literature itself insofar as he represents it, has moved beyond humanism. Characterization in literature is an expression and a celebration of the concept of individualism, itself fundamental to humanism in the American idea of it. But for at least some postmodern theorists, the belief in individuality is merely a kind of blindness, a refusal to acknowledge that all of us are merely determined by our situatedness in our own time, place, gender, race, and economic class. For them too, there is no such thing as individuality. For some of the more political of such theorists, the only possible ethics is to forget 'personal' choice, join a radical ideology devoted to overturning or subverting all distinctions of gender, race, and class, and 'transform' the self as well as the world in the name of tolerance and understanding. We might take Ford to be in that group, observing for example that Steven and Marjorie themselves take for granted their positions in a privileged lifestyle.

But Ford is not political in that sense, and one of the remarkable things about his story is that there is no hint that it wants to make any such facile or idealistic point. In Ford's world, nothing seems to count – not character, philosophy, commitment, even skill. His story doesn't try to be comic or satirical or even ironic, though perhaps even this is an irony.[8] Ford passes no judgment on the meaninglessness of Steven's situation or on Marjorie's character, which is wholly ad hoc and arbitrary, and he has no idealistic point to make about that. For Ford, it is not an ideological blindness that limits Steven and Marjorie. Indeed, in his world, there is simply no possibility of understanding. Ford's attitude toward character is simply a manifestation of a radical skepticism toward any essence – in short, an extreme existentialism.

So how can we score the competition? Does Ford mount a successful challenge to the hegemony of Hemingway as an influence in American literature? There are

[8] By one count, of course, it is hugely ironic that Marjorie cold-bloodedly kills her husband with the car immediately after she has railed at the "degraded humanity" of the driver of the pickup truck who ran over a "poor creature", a raccoon. But there is no underlying psychological pattern that would make this irony meaningful in terms of her character. The story doesn't even seem interested in letting us explain her as a sociopath. She may be one, but Ford's point is that her condition is not personal. It's built into the world.

many ways in which one could assess the situation. For one thing, the challenge itself is meaningful. It both reminds us of, and reasserts, the status of Hemingway as a force in American literature even as it overtly claims equal status for Ford. To my mind, the homage implied outweighs the challenge itself. For Ford takes Hemingway farther in his own directions: Hemingway's existentialist views of the nature and the world become more extreme, more despairing, perhaps more indicative of the postmodernist cultural changes that have occurred since Hemingway's death in 1962; but they still seem to be a natural evolution of Hemingway's views.

This suggests, and I think it is true, that Ford's purpose is not really to shoot Hemingway down, but to elevate his own status by the comparison. The risk, however, is that we might find Ford to be disadvantaged by the comparison. For if we compare the simple pleasures of reading the stories, Hemingway wins. Hemingway's language polishes itself toward the elemental, the hypostatic, the lapidary, the opaque. Ford's language elaborates itself toward pure explanation, insinuating the rhythms of Steven's most inefficient and muddled rationalizations. The result is a sense of being immersed, however rigorously, in a totally inauthentic mind. The further point, that there simply is nothing authentic to be found in the world, is not an enjoyable lesson to learn, however necessary it may be to learn it.

Chapter 9
What I Have Learned About English from Being in Japan (Or: Why Can't Japanese Students of English Manage "A", "An" and "The"?)

Good afternoon everybody. This is my farewell lecture to this faculty, and the first thing I should do is thank you all for making my 10 years with you a memorable and enjoyable experience. It has been wonderful, and my wife and I will miss all of you very much.

I also owe you an apology. I'm very much embarrassed that I failed to do one thing that I really meant to do, which was to learn Japanese well, so that I could be a full participant in the department's business. I never studied hard enough to do that, and I missed so much. One result was that I have never been able to do many of the jobs that the department needed doing, and that has placed extra burdens on you. So I apologize.

One reason I didn't was that I wanted to spend a lot of my discretionary time on my own big project, that is, a rather speculative model of English discourse that I have been trying to build for nearly 25 years now. I have made some progress, and have published half a dozen pieces of it in the *Meisei Journal*, and still want to make a book of it.[1] But I'm embarrassed that, in the process, I never worked very hard to learn Japanese.

I have tried to make myself useful, though. So I have never refused requests from colleagues, both in and out of the department, to edit English-language papers. I have edited papers for some of you, even for some retired Meisei teachers, and researchers in other departments, particularly physics, chemistry, and mechanical engineering. And of course I have edited many, many student papers.

And as it has turned out, this is the work that has given me some essential clues about structures in English, and has been a bigger boost to my own project than anything else I could have done. That is, studying Japanese and reading Japanese English has made me learn things about English that most Westerners, even linguists, still don't know, and an essential piece of the model I'm trying to build of English discourse. So I want to talk today about some of the things I have learned about English from studying Japanese – and Japanese English.

[1] In fact I'm going to borrow some materials from one of them for this lecture: Caldwell 2002.

T. P. Caldwell, *Discourse, Structure and Linguistic Choice*, Studies in Linguistics and Philosophy 101, https://doi.org/10.1007/978-3-319-75441-3_9

9.1 "A" and "The"

When editing English-language papers written by my Japanese colleagues, the thing that surprises me is that no matter how well the piece is written, I still find myself adding or deleting the word "the" or "a", and often changing singular nouns to plural nouns. Sometimes I think about cutting off the last phrase or two of long sentences – and a few other easy things that I would never think of doing for native English writers.

Why should that be so hard? Native English speakers never learn any rules about these things, yet they never make mistakes in their use. Whatever it is that we have to learn about them, we learn unconsciously and take the knowledge entirely for granted. So if there is a system governing their use, nobody in the West knows how to explain what that system is.

But after 10 years of editing English papers by Japanese writers, I have seen these errors made long enough to suspect that there must be some unconscious patternings in English that even native English speakers are unaware of, that we need to become aware of. Actually there is no way for me to know there is a system there except that I think I see the 'rules' being systematically broken. I have been trying to piece together what the system must be. This is my first attempt to put it all together, but I want to try.

Of course, you can find in some ESL grammar books some instruction on the uses of "a" and "the", and they are quite simple: "a" is what you use when you mean an 'indefinite' noun, and "the" is what you use when you want a 'definite' noun. So it has something to do with definiteness or indefiniteness. But why should we have an opinion about whether a noun should be definite or indefinite? Japanese doesn't seem to care. Why should English? When I see Japanese writers making mistakes about these things, I realize that there are rules operating that I never noticed until I saw them violated.

Another clue is in the injunction that "a" is used most often for *new information* and "the" is most often used for *old information*. That helps a little too, but not enough. It indicates at least that the issue may be an epistemic one. That is, it may be an issue of whether the thing you are talking about is a *known* thing or an as yet *unknown* thing. Information is *old* if (i) it has already been said in the discourse, or (ii), if it is implied by something already said, or by the fact that it's common knowledge about the world and everybody already knows it. And information is *new* if it is not part of what everybody already knows, and you are just now introducing it into the discourse. Sometimes it's new in being just now introduced into the discourse, but old in the sense that everybody already knows about such things, so it's old and new in some sense. But the best 'rule of thumb' I can think of is this: that if *there is only one*, and *you know which one it is*, use "the".[2] If you don't know which

[2] "The" is an extremely difficult word. For a fuller discussion of it, see Halliday and Hasan (1976, pp. 70–74).

one(s) it is, use “a” or “some”. And if the question is meaningless, don’t use any determiner.

- When I leave my house, I always lock **the** door.
- Don’t run into **the** train.

In both cases, use “the”. The door(s) have not been already mentioned explicitly, but everybody knows that every house has a door, so it is an implicit part of the discourse introduced by the house. As for the train, you know which train it is: it is the train that is on the platform in front of you, with its doors about to close.

This rule also works for plurals:

- When you park your car, you should always lock **the** doors.

Your car may have four doors, but you know which doors they are, and so you know which ones to lock. Use “the”.

Now in the case of new information, you of course will know the meanings of the words, but you may not know which specific ones are being mentioned.

- When you go to **the** supermarket, please get me **a** bottle of orange juice.
- When you go to **the** supermarket, please get me **some** orange juice.

Most people patronize a single supermarket, so this sentence assumes the speaker knows which one it is. On the other hand, there are many bottles of orange juice, and the speaker doesn’t know or care which one she/he will buy. In the case of the non-count noun, use “some” or some other quantifier, such as “2 liters of”.

Some non-count nouns can also be used as count nouns. Notice that the non-count noun is more abstract, less specific, than the count noun:

- It’s a lot of **trouble** to go through the immigration process.
- She told the doctor about all of the **troubles in her life**.
- As a young man, he showed a lot of **promise**.
- Gary made **a promise to his mother**.
- **Friendship** is wonderful. I have **many friends**.
- I wish you **success**. I hope your new business is **a success**.
- **Change** is inevitable. I hope we have **a change** for the better.
- **Education** is good. You should get **a good education**.
- He is **a good leader**. He gives strong **leadership**.

There is another group of non-count nouns, however, that are always non-count, and are always abstract nouns. In this case it makes no sense to say “there is only one and you know which one it is”, so don’t put any determiner with it:

- “Moral **indignation** is **jealousy** with a halo.” (H. G. Wells)
- “**Glory** is fleeting, but **obscurity** is forever.” (Napoleon Bonaparte)

Do all nouns require “the” or “a”? No, there are several kinds of nouns. The most important distinction is between ‘count’ nouns, like “apples”, “bikes”, “cars”,

"houses", "people", and "liters of juice", and two kinds of 'non-count' nouns: concrete ones like; and abstract ones like, "slavery", "loyalty", and "sincerity". For the concrete ones, use "the" or "some". For the others don't use anything.

Now, the hard part is this: "a" and "the" are called "determiners", and for the most part, Japanese doesn't use them. English speakers never make any mistakes in the use of "a" and "the", but we use, unconsciously, a system. The only way to even guess that there might be a system there is to see its rules violated consistently in Japanese English.

Let me borrow an example I used in one of my articles. This is a phrase I found on a notebook I bought in Tokyo. The legend on the front said:

- The notebook which has ruled line and being able to fold up is the best for arranging sentences.

Why does this sound so strange to native-English ears? I think it is because it violates salience-order rules.[3] What could they be? Perhaps we can gain a clue by comparing this sentence to a 'corrected' version of it:

- A notebook which has horizontal ruled lines and can be folded up is the best for taking notes.

And an even better one would put it in a different order:

- The best notebook for taking notes would be one which has horizontal ruled lines and can be folded up for easy carrying.

If we look at the changes required, we might guess that salience ordering has something to do with it:

1. **Determiners**, as we had to change "the" to "a".
2. **Plurality**, as we had to change "line" to "lines".
3. **Specificity**, as we had to change "arranging sentences" to "taking notes".
4. **Word order**, to get the sentence "end-loaded" rather than "front-loaded".

As we will see, English uses determiners, pronouns, number and other things to referee *greater* or *lesser* degrees of determinacy and specificity to indicate the salience structure of the sentence. And since native speakers of Japanese don't use determiners or plural markers, it is no wonder that they have a difficult time in understanding the covert English salience system.

[3] Most Cognitive Linguists view it as a matter of discourse anaphora and Topic Continuity: that is, repeated references to a topic over time. But that explanation is no help with Japanese examples, so I want to extend it to a larger view of discourse salience. That is, we must be concerned not only with maintaining an information structure and keeping topic references current; we must also be prepared to promote or demote various elements of a discourse in order to control the reader's or hearer's focus on the salient elements of the sentence. (*Cf.* Fox 1987 and Givon 1983.)

9.2 Discourse Salience

One way to say what discourse salience is, is that it refers to a kind of relevance order in discourse. A better way is to say that when something has salience, it stands out from the rest. It is the thing we then *focus* on. To illustrate, let's talk about the field of vision. When we open our eyes, we are instantaneously greeted with thousands of visual sensations from the whole field, but we very quickly focus on something. That thing then has salience, while all the rest fade into the *background*. So we can easily distinguish the salient object, or the point of focus, from the background.

We can do this quite willfully: try this thought experiment. Look around the room, and then notice the blue things in your field of vision. Your eyes can almost automatically focus on them, and you can make them do that. Now look at the red things. You can almost instantly notice how the blue things now fade into the background, and the red things emerge from the background into salience.

This suggests another factor: your reader also reads willfully, and comes to your text looking for something. So you can guide his or her expectations. Or if you surprise your reader with a focus on something unexpected, you may have to exaggerate the salience of what you are focusing on.

Now, when we talk about salience in discourse, it should be clear that we are talking about a kind of *relevance order*. That means we are talking not about syntax, but about *meaning*, specifically meaning with a communicative purpose. From a linguistic point of view, it's important to make this distinction: syntax is about sentence structure. But salience is a discourse matter: I mean more than sentences – paragraphs, conversations, the conveyance of meaning from one party to another. I mean the creation of meaning – information – with ***intentionality***, information with ***point***, ***purpose***, and ***aim***. Syntax, per se, has little or nothing to say about these things. So discourse salience is *not* about syntax, but rather, I think, it's about semiotic economy. Take sentences like the following:

- Seven of the world's ten largest banks have headquarters.
- Today's weather forecast calls.
- Black is the color.

I believe they are technically correct English sentences. They have subjects and verbs. They are syntactically correct, but they just sound a little odd.

To complete them, I want to add some prepositional phrases. From the point of view of syntax, prepositional phrases are always optional, mere adverbial and adjectival modifiers. But from a discourse point of view, they are necessary to purpose, aim, and point. The first is something people used to say during the height of the Japanese bubble economy in the late 1980s:

- Seven of the world's ten largest banks have headquarters in Tokyo.

The second is something you'd hear on TV every day:

- Today's weather calls for temperatures in the 1920s, with high humidity and a chance of afternoon rain showers.

The third is the title of a well-known folk song:

- Black is the color of my true love's hair.

With these examples I mean to show why I believe that the essential structures of language belong to discourse salience, and not to syntax. The purpose of language is to make it possible for us to express purposes, aims, and intentions, and so I have to believe that the secret to communicative structure lies somewhere in salience structures, not in sentence syntax.

Now, you have noticed that in order to complete these sentences I had to add something to the *end* of them. In English, word order is an important factor, and the end is often the most salient point. Discourse is a string of words and phrases that come one after another, and as we go along we have to guide the hearer or reader to focus on the correct sequence of salient objects, as the salience moves from word to word and sentence to sentence through the discourse. It is not a static thing.

9.3 Old Information, New Information, Current Topic

In discourse – whenever we set out to convey some information to somebody – it seems we have to start with something our listeners already know, and then we try to tell them something they didn't already know. That is, we start by reminding our listeners of some old information, and that becomes the *topic* of the sentence. Then we move on to assert something *new*, that is, something our hearers didn't already know, and usually that becomes the salient part of the sentence.

After that move, the new information can become the topic of another sentence, so that we can then go on to something else that is new. But after it is new, it immediately becomes old, where it resides in presupposition to whatever comes next. Or maybe it will soon be forgotten unless we keep it current, by repeating it occasionally, in subsequent sentences.

Now, everybody already knows this, at least instinctively. I want to make it explicit because the question now becomes, "how do we indicate which is old and which is new?" How do we indicate those things which are old but must be maintained as current, so as to provide for a continuing topic to which newer and newer information will be attached?

Let me show you what I mean. Here is the first paragraph of a hypothetical novel. As you might expect, since we start with *no* information about the world of a novel, it is often the case that nearly everything in the first paragraph is new information. Or if we start with old information, it must be old information in the *first* sense; that is, information that everybody already knows, because it is common knowledge to everyone in our culture. Actually, it's new to the reader, but easy to understand because we are merely referring to meanings that are already quite familiar to

readers. That is, everybody knows what a 'family' is, and everybody is assumed to know where Dorset is.

- My family lived in Dorset. My father was a greengrocer, and there were four of us children. Emily was the youngest. While the rest of us grew up to marry or to take on respectable, if unremarkable positions in the community, Emily went to college. She was the only one of us to do so.

Let me try to show the sequence of focal points, or rather, the movement of discourse salience:

My family → lived in **Dorset**.
My **father** → was a **greengrocer**, → and there were **four** → of us **children**. **Emily** → was the **youngest**.
While the **rest of us** → grew up to **marry** or → to take on

respectable, →
if **unremarkable** →
positions in the community,

Emily → went to **college**.
She was the → **only** one ← of us to do so.

This paragraph, being the first paragraph, contains a whole string of new information, down to the last sentence. In the last sentence, there is one new element: **only**. All the rest of the sentence consists of repetitions of old information, information that has already been asserted explicitly in the paragraph. So how do we clue the reader that this sentence does *not* have the same salience structure as the others?

Let's compare a fully-marked version of the same sentence:

Emily → was the → **only** → **member** of our **family** → to **go to college**.

Then you can see that although we kept the grammatical form of this sentence, we previously *demoted* all the other elements to less-salient forms, leaving "only" as the one fully salient item.

That is, "Emily" was demoted to "she" and then to "one". The **family**, with its **four children**, has been demoted to "us". "Went to college" is demoted to "to do so". It's as if these pronouns are mere placeholders for the items of old information that have to be kept current, and "to do so" is a kind of pro-verb, with the same function. The purpose and intent of the sentence is wholly contained in the word "only", which carries the point about Emily's special story, as opposed to the ordinary stories of the other members of the family.

Now, having given you a sample of one important way to manipulate salience order, let me try to present the topic in an orderly way. First, an overview of how this salience order can be established and controlled by any writer, or speaker, of English discourse.

(A) Default salience order: Normal syntax, fully marked elements, front-to-back salience order.

(B) Overriding default salience order, **manipulating it strategically**:

1. The easiest way: Special **word order** to point directly at salient items.
2. Increasing and decreasing **specificity**.
3. Special **vocabulary** for marking unmarked elements.
4. Special **rhetorical patterns**.
   (a) Negation
   (b) Interrogation
   (c) Parallelism
5. If all else fails, SHOUT! (**vocal emphasis**)

Let's take these up one at a time.

9.3.1 Default Salience Order

In English, word order is a basic indicator of a default salience order. That is, it's a climactic order, a front-to-back order, with the most salient typically coming last in the sentence. The basic syntactic patterns of English support this. Thus, to survey the standard sentence patterns in English:

1.	"**BE**" **verbs**:	N BE Adj, Adv, or N Emily → is → **young** Emily → is → **in Oxford** **Emily** → was → the **only person** → **in our family** → to **go to college**
2.	**Transitive verbs**:	N Verb (Comp) Comp (Adv) Her father → bought → some **books** → for **Emily**. Her family → bought Emily → some **books**. Her family → sent → **Emily** → to **Oxford**. Hard work → allowed → **Emily** → (to pass → **her exams**). Emily → likes → **studying** → **hard**.
3.	**Passive Voice Transitive verbs**:	Comp Pass. V(Adv) These books → were bought → by **Emily**. Emily → was sent → to **St. Anne's College**, **Oxford**.

4.	**Intransitive verbs**:	N V (Adj) (Adv) **I** → wrote → about **Emily**. Emily → **was accepted** → at **St. Anne's College**, **Oxford**. Emily → sat → **quietly** → on the **train** and → **thought** → about the **changes** → in her **life**.
5.	**Linking verbs**:	N V Adj / Adv / N Emily → became → a **student** → at **St. Anne's**. Emily → felt **nervous** → about being **away from home.**

This survey of the standard syntactic patterns of English (I have omitted the complexities of subordinate clauses, but they work the same way) suggest that they all accommodate a *climactic salience order*, that is, a front-to-back order of increasing salience, in which each element is more salient than the one before. Is it a coincidence that basic sentence patterns track default salience order in this way? Does it mean that salience is a matter of syntax? But, we have already seen that it isn't. Could it mean, then, that syntax is *in the service of* discourse salience?

By the way, this seems to be very different from Japanese, in which word order is not so important but which I suspect of having a bias toward an anticlimactic word order – that is, a word order in which the important words come early, not late. I see signs in stores saying:

- SALE!! 50% – 30% OFF!!

While signs in America always read:

- SALE!! 30% – 50% OFF!!

Anyhow, this English bias toward the end of the line is only the 'default' arrangement, and it can be overridden by a number of means. Also, it assumes that each element is fully marked in its semantic form. That is, the following sentence:

Emily → was → the **only person** → in our **family** → to **go to college**.

Can be re-marked by judiciously de-marking the elements you don't want to be salient. Then they become mere placeholders, leaving the salience to go somewhere else.

She was the → **only** ← one of us to do so.

What does it mean that syntax order expresses (default) salience order? We have always thought that syntax was the thing that described all the structures of English sentences. But what if it is not primary at all, but in the service of something else, that is, in the service of salience order, which itself is a discourse issue, not a sentence issue?

9.3.2 Strategically Manipulating Salience Order

Let's start with a complex declarative sentence, with every element marked with normal (default) salience order:

Emily → invited **Kaori** → to **go with her** → to a **concert** → at the **Mary Ogilvie Lecture Theatre**.

And then consider ways to override the default salience order, to customize the sentence for your own uses.

1. **Word Order**

We can change the word order to point directly at different salient items:

- Kaori is the one she invited (to go with her to the concert).
- The Mary Ogilvie Lecture Theatre is where the concert is.
- The important thing to notice here is that Kaori was invited by Emily.

2. **Specificity**

Let's start with a standard sentence, with everything marked, in climactic front-to-back salience order:

- **Emily** invited **Kaori** to go with her to a **Shakespeare performance** at the **Mary Ogilvie Lecture Theatre**.

Now, what if this story is about, not Emily, but Kaori? Let's mark Kaori *up* and everything else *down* (it also helps to move the important information to the end of the sentence).

- She went to a play at the campus theater with **her new Japanese friend**, **Kaori Nakamura**.

What if this story is about the theater?

- She and her friend went to a performance at **the world-famous Mary Ogilvie Lecture Theatre**.

What if this story is about the performance? Let's mark it up and the other elements down.

- They went to see The Royal Shakespeare Company's opening performance of ***The Merchant of Venice*** at the theater on campus.

And since the information that comes after the salient element is anti-climactic and seems like something dead hanging on the end, let's move it away, and put it elsewhere if we have to have it.

Let me conclude this little sub-section by suggesting that from a linguistic point of view, it is important to realize that these issues are not syntactical ones, but issues of discourse salience. And if we look for a reason why discourse should be ordered this way, it only takes a few minutes' thought to realize that it's a matter of *semiotic economy*. Your reader or listener only has so much energy, and we communicate better if we only ask him or her to focus on a few key things at a time.

3. **Vocabulary**

In the English language there exists special vocabulary for marking normally unmarked elements: “even”, “only”, “just”, “own”. “Even”, as an adverb, seems to mark as salient particularly improbable phrases:

- She sold everything, **even most of her clothes**, before moving to Oxford.

“Only” marks the number following by giving it extra precision. “One and no more”:

- She was the **only** one of us to do so.

“Just” marks the number following in the same way, but it may not be preceded by “the”:

- **Just** one of us went to college – Emily.

“Own” gives salience to the possessive pronoun “my”:

- After visiting friends all day I was glad to get to my **own** house.

4. **Rhetorical Patterns**

While affirmative and declarative sentences often have an unclear or ambiguous salience order, negatives always mark the most-prominent element, and questions always query the most-prominent element. Parallelism, on the other hand, puts focus on the salient elements by putting them into a direct comparison with each other.

(a) **Negation**

- Did you call Tom to tell him that we will go with him to the party Saturday night?

“Yes”.	(Default marking: yes to every part of the question.)
“No”.	(What is being negated? Some part, which part?)
“No, I didn’t”.	(“Call Tom” is being negated.)
“No, we aren’t”.	(“We aren’t going to the party with him”.)
“No, it’s Friday”.	(“Saturday night” is negated.)

In short, in order to negate something, you have to know *what* you are negating: that is, you have to know the salient element in the sentence. It is very interesting to see that “yes” and “no” have such different roles in defining salience.

(b) **Interrogation**

Questions also have an implicit role in clarifying salience order. Notice in the example above, making a question of the verb “Did you call Tom….?” did nothing to clarify that, but question words: “what”, “when”, “why”, “how”, “how many”, etc. do have such a role.

- **When** is the party?

  Saturday night.

- **What** did you tell Tom?

  I told him we will see him there but **we don't need a ride**.

- **Why** did you tell him that? Our car is broken.

  I made another arrangement.

- **How** are we going to get there?

  We are going **with John and his wife**.

- **How many** of us are going together?

  Just **the four** of us.

(c) **Parallelism**

- Donald's wife wants him to **buy a mansion**, **but he'd** really rather **rent an apartment**.

In the above example the negative "but" pairs "wife" with "he", and "buy a mansion" with "rent an apartment". It's essential that these pairings be parallel in form; then they have the same salience.

- "It takes many good deeds to build a good reputation, and only one bad one to lose it". (Benjamin Franklin).
- We are planning to go shopping tomorrow in my car, not yours.
- We are planning to go shopping tomorrow, not today.

5. **Vocal Emphasis**

   If all else fails, SHOUT!

- We are planning to go shopping tomorrow in **MY** car.

There are many other things to say about managing discourse salience, that is, managing your readers' or listeners' attention, but I am going to stop here.

Coming to see something of this covert system in English is an essential part of my long-term project, which has been to write a non-categorical grammar of English. I don't believe that the English language, any more than I do, likes to follow rules. You probably have the impression, from your English courses, that learning English grammar is a matter of learning a great many 'rules of usage'. I actually don't believe that the English language follows them itself. What I have been trying to convey today is not a set of rules, or even a system, but rather a set of strategies for communicating.

This view of the English language as essentially idiomatic, both in its vocabulary and in its grammar, is one that for me has implications far beyond linguistics, and reaches into many fields of thought. I won't try to describe them, but I do want to

conclude by saying something about where I have ended up intellectually after 45 years in the teaching business.

I am no longer a Platonist, like most Westerners are. I am not a monist. I have become a pluralist, something like a non-rigorous existentialist; I believe in essences, but I think they come from the ground, not from the sky.

The problem with categorical thinking is that it requires generalizing. If you generalize habitually, everything begins to looks like everything else. After a while, everything is the same category or set of categories, and it looks like there is only one essence. In this direction lies monotheism and every kind of monism. Going too far in this direction is a bad habit of Western thought.

Sufficiently particularized, however, nothing looks like anything else. After a while, everything is different from everything else, and it looks like there are either millions of essences, and each one seems worthy of worship. In this way lies Shinto, by the way, and magic, and every kind of pluralism (it is one of the charming things about Japan).

I don't reject any of these things. I am not a nihilist or a pessimist or a committed skeptic. I am willing to entertain almost any thought. I believe with Hamlet that there are "more things in heaven and earth than thou has dreamt of in thy philosophy, Horatio".

In the realm of ordinary life, we have to operate somewhere between the extremes of generalization and particularization; in order to understand anything, we have to analyze and we have to synthesize. It is one thing to know the general truths, but better to know the special things, the particularities – the small miracles that reside in everyone's uniqueness. I could do worse, I think, than to conclude my academic career having arrived at such a place.

Thank you all very much.

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